ENSURING A SAFE WATER SUPPLY IN THE AGE OF FOREVER CHEMICALS



With concern growing about the presence in some water supplies of a family of chemicals known as PFAS, the Metropolitan Water District of Southern California continues to ensure the region has a safe and reliable drinking water supply.

Metropolitan has been monitoring its water supplies for the presence of PFAS since 2013. The two types of PFAS of greatest concern in the U.S. – perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) – have not been detected in Metropolitan's imported or treated water supplies. Metropolitan has recently detected in its supplies low levels of perfluorohexanoic acid (PFHxA), which is not acutely toxic or carcinogenic and is not currently regulated in California or at the federal level. No other PFAS have been detected in Metropolitan supplies.

PFOA and PFOS have, however, been detected in groundwater wells in the region. Metropolitan is working with its member agencies to build understanding about how PFAS have affected the region's water supplies to ensure Southern California continues to have safe, reliable water.

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a family of more than 7,800 chemicals widely used in products that resist heat, oils, stains and water. Two types of PFAS – PFOA and PFOS – are the most commonly used, studied and regulated PFAS in the U.S.



FOREVER CHEMICALS

1940s 1950s and 60s

2000s

LONG into the future

PFAS were first developed.

Use of PFAS proliferated. There are now 7,800 different kinds of PFAS.

National use of two of the most common PFAS – PFOA and PFOS – voluntarily phased out (though they are still used in products manufactured in other countries).

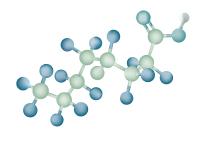
PFAS will still be around. The chemicals are extremely stable in the environment and in the human body, meaning that they don't easily break down and can accumulate over time, giving them the name: "Forever Chemicals."

Health Effects of PFOA and PFOS

PFOA is a possible human carcinogen, according to the International Agency for Research on Cancer. High concentrations in the body of PFOA and PFOS have also been linked to:

- High cholesterol
- Thyroid and liver disease
- Decreased fertility
- Lower birth weights
- Decreased response to vaccines
- Pregnancy-induced hypertension

Health effects of other PFAS are being studied.



Where Have PFAS Been Found?

After being generated elsewhere, the chemicals have entered the water cycle through landfills; sites where the chemicals were used in manufacturing; treated wastewater discharge;



and facilities where the chemicals were used in firefighting training, like airports and military bases. Because they don't easily break down and are resilient, the chemicals can accumulate, leading to elevated levels in the groundwater near those sites. Although the chemicals need to be addressed at their source, the potential for PFAS to collect in groundwater is a major concern. The process to address affected groundwater is underway.

Ensuring Safe Drinking Water

If a water agency in California detects PFOA or PFOS in its water at unacceptable levels, it can:

- Treat it using activated carbon, reverse osmosis or ion exchange
- · Remove the supply from service and find an alternative supply
- Blend it with other, unaffected supplies

Metropolitan is ready to assist our member agencies with additional imported water supplies to offset any potential loss of local supply.



Emerging Regulations

State and federal lawmakers and regulators are moving toward stricter standards and guidelines for the detection, public notification and removal of PFOA and PFOS in drinking water. Other PFAS chemicals may be considered for future regulations.

U.S. Environmental **Protection Agency**

Current:

Drinking water health advisory of 70 parts per trillion (ppt) for a combined concentration of PFOA and PFOS. If exceeded, EPA recommends agencies assess the

Future:

EPA is establishing drinking

California State Water Resources **Control Board**

Current:

Notification level for PFOA is 5.1 ppt and for PFOS is 6.5 ppt. If exceeded, agencies must notify their governing bodies and agencies under a monitoring order must also notify customers. New Response level for PFOA is 10 ppt and for PFOS is 40 ppt. If exceeded, agencies must notify governing body and agencies under a monitoring order must remove the drinking water source from service or notify the public.

SWRCB has initiated a process to establish public health goals and chemicals may be considered for similar actions in the future.

ABOUT METROPOLITAN

The Metropolitan Water District of Southern California is a state-established cooperative that delivers water to 26 member agencies serving 19 million people in six counties. The district imports water from the Colorado River and Northern California to supplement local supplies, and helps develop increased water conservation, recycling, storage and other resourcemanagement programs.

OUR MISSION

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.







