

# Pretreatment Standards for the Oil and Gas Extraction Point Source Category

## Summary

EPA finalized a rule, on June 13, 2016, establishing pretreatment standards for discharges of wastewater from onshore unconventional oil and gas (UOG) extraction facilities to municipal sewage treatment plants (also known as publicly owned treatment works, or POTWs). The rule protects human health and the environment by preventing the discharge of pollutants in these wastewaters. The rule also protects POTWs from disruptions in their operations that can be caused by these wastewaters.

## Background

Responsible development of America's oil and gas resources offers important economic, energy security, and environmental benefits. EPA has been working with states and other stakeholders to understand and address potential impacts of hydraulic fracturing, an important process involved in producing UOG, so the public has confidence that oil and natural gas production will proceed in a safe and responsible manner.

UOG extraction wastewater can be generated in large quantities and may contain pollutants that are potentially harmful to human health and the environment. Because they are not typical of POTW influent wastewater, some UOG extraction wastewater constituents can be discharged, untreated, from the POTW to the receiving stream; can disrupt the operation of the POTW (e.g., by inhibiting biological treatment); can accumulate in biosolids (sewage sludge), limiting their use; and can facilitate the formation of harmful disinfection by-products (DBPs). Based on the information collected by EPA, current industry practice is to not send these wastewaters to POTWs. EPA is issuing a zero discharge pretreatment standard that will ensure that such current industry best practice is maintained over time. EPA does not project that the final rule will impose any costs on the industry or lead to pollutant removals.

This final rule fills a gap in existing federal wastewater regulations to ensure that the current industry practice of not sending UOG extraction wastewater discharges from this sector to POTWs continues into the future.

## Are there existing regulations that apply to this industry?

Direct discharges of oil and gas extraction wastewater pollutants from onshore oil and gas facilities to waters of the U.S. have been regulated since 1979 under the existing Oil and Gas Effluent Limitations Guidelines and Standards (40 CFR part 435), the majority of which fall under subpart C, the Onshore Subcategory. The limitations for direct dischargers in the Onshore Subcategory represent Best Practicable Control Technology Currently Available (BPT). The BPT-based limitations for direct dischargers require zero discharge of pollutants to waters of the U.S. However, there are currently no requirements in subpart C that apply to onshore oil and gas extraction facilities that are indirect dischargers, i.e., those that send their discharges to POTWs that treat the water before discharging it to waters of the U.S. Requirements that apply to indirect dischargers are referred to as pretreatment standards.

## **What part of the industry is addressed by this rule?**

This final rule includes pretreatment standards for wastewater pollutants from a subset of oil and gas extraction facilities. This rule applies to onshore extraction from shale and/or tight geologic formations (referred to as unconventional oil and gas extraction resources).

This final rule does not include pretreatment standards for wastewater pollutants associated with conventional oil and gas extraction facilities or coalbed methane extraction facilities. EPA is reserving such standards for a future rulemaking, if appropriate.

This rule does not address the practice of underground injection of wastewater discharges from this sector since such activity is not subject to the Clean Water Act but rather the Safe Drinking Water Act.

## **Why did EPA require zero discharge of pollutants from UOG extraction facilities to POTWs?**

Most POTWs are designed to treat pollutants found in municipally-generated, not industrial, wastewater. They typically provide at least secondary level treatment and, thus, are designed to remove suspended solids and organic material using biological treatment. Wastewater from UOG extraction can contain high concentrations of dissolved solids (or salts), as well as pollutants such as radioactive elements, metals, chlorides, sulfates, and other dissolved inorganic constituents that POTWs are not designed to remove. Because they are not typical of POTW influent wastewater, some UOG extraction wastewater constituents can be discharged, untreated, from the POTW to the receiving water; can disrupt the operation of the POTW (e.g., by inhibiting biological treatment); can accumulate in biosolids (sewage sludge), limiting their use; and can facilitate the formation of harmful DBPs.

Where UOG extraction wastewaters have been indirectly discharged to POTWs in the past, there have been documented cases of elevated levels of chloride and bromide occurring in the receiving waters. The concentration of TDS in UOG extraction wastewater can be high enough that if discharged untreated to surface water, the potential exists to adversely affect a number of designated uses of surface water, including drinking water, aquatic life support, livestock watering, irrigation, and industrial use. There have also been documented cases where discharges of bromide upstream of drinking water intakes have led to the formation of carcinogenic disinfection by-products at drinking water utilities.

## **When will this rule take effect?**

Because the requirements of the final rule are based on current practice, EPA determined that the standards apply on the effective date of the final rule, which is 60 days after publication in the Federal Register.

## **Where can I find more information?**

You can view the Federal Register Notice on EPA's website for Unconventional Extraction in the Oil and Gas Industry at <https://www.epa.gov/eg/unconventional-oil-and-gas-extraction-effluent-guidelines>. In addition, the final rule will be available at <http://www.regulations.gov> under Docket ID: EPA-HQ-OW-2014-0598. You may also email Ms. Karen Milam at [Milam.Karen@epa.gov](mailto:Milam.Karen@epa.gov).