

EPA bans unconventional wastewater discharges to POTWs

On June 28, the U.S. Environmental Protection Agency (EPA) published the rule “Effluent Limitation Guidelines and Standards for the Oil and Gas Extraction Point Source Category” in the Federal Register.¹ The final rulemaking, which takes effect August 29, prohibits the discharge of unconventional wastewater pollutants from production, field exploration, drilling, well completion or well treatment to publicly owned treatment works (POTWs).

The rule amends the effluent limitation guidelines (ELGs) found in 40 CFR Part 435, which set the effluent limitations and guidelines for oil and gas extraction under the Clean Water Act. Subchapter C of Part 435, which applies to onshore production of oil and gas, already prohibits the discharge of wastewater pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion or well treatment. The final rulemaking extends the Subchapter C prohibition to include the indirect discharge of unconventional wastewater pollutants through POTWs.

EPA defines unconventional wastewater pollutants, in part, to include drilling muds, drill cuttings, produced sand and produced water. EPA defines “unconventional oil and gas” as “crude oil and natural gas produced by a well drilled into a shale and/or tight formation (including, but not limited to, shale gas, oil, tight gas, and tight oil).” In the accompanying “Technical Development Document for the Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category,” EPA notes that its final definition of unconventional oil and gas is “generally consistent with those in other readily available sources,” including the Pennsylvania Code.

EPA states in the preamble that the final rule is not projected to affect current industry practice or to result in incremental compliance costs because “the data reviewed by EPA show that the [unconventional oil and gas] extraction industry is not currently managing wastewaters by sending them to POTWs.” Nonetheless, operators might consider reviewing the U.S. Energy Information Administration list of unconventional formations that was published as a table in the “Assumptions to the 2015 Annual Energy Outlook” to better ensure compliance.

In the preamble, EPA explains that the rulemaking is in response to concern that certain constituents in unconventional

wastewater, such as high concentrations of total dissolved solids (TDS), radioactive elements, metals, chlorides, sulfates and other dissolved inorganic constituents, can pass through POTW facilities untreated. Additionally, EPA states that the same constituents, when found at certain concentrations, can: (1) disrupt the operation of a POTW by inhibiting biological treatment; (2) accumulate in biosolids thereby limiting their beneficial use; and (3) facilitate the formation of harmful disinfection byproducts.

In the Technical Development Document accompanying the final rule, EPA lists the POTWs that have accepted unconventional oil and natural gas wastewater in the past. Eighteen of the 20 listed POTWs are located in the Commonwealth, and all had ceased accepting unconventional wastewater by the end of 2011. EPA credits the Pennsylvania Department of Environmental Protection’s April 2011 request that unconventional operators stop discharging extraction wastewater to POTWs with eliminating the practice.

EPA also notes in the preamble to the final rule that there are several zero-discharge alternatives for managing unconventional wastewater, such as underground injection control disposal, recycling for fracturing of other wells or transfer of the wastewater to a centralized wastewater treatment (CWT) facility. Several commenters on the proposed rule suggested that EPA establish a non-zero discharge standard similar to the one adopted in Pennsylvania in 2010 that requires pretreatment of oil and natural gas wastewaters to meet a maximum TDS concentration of 500 mg/L. EPA rejected this suggestion, in part, to achieve consistency between the direct and indirect discharge requirements in Part 435.

In the Technical Development Document, EPA explicitly states that it is aware of instances where unconventional operators discharge wastewater to CWT facilities for treatment and that certain CWT facilities discharge to POTWs. According to EPA, “such discharges may not be subject to the ELGs for the oil and gas extraction category which is the subject of the rule. Rather, discharges to POTWs from CWT facilities accepting [unconventional] wastewaters may be subject to ELGs for the Centralized Waste Treatment Category (40 CFR

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Part 437).”

Preliminary Effluent Guidelines Program Plan released

On June 27, EPA released the “Preliminary 2016 Effluent Guidelines Program Plan.” The Clean Water Act requires EPA to review existing ELGs annually. In even-numbered years, such as in 2016, EPA reviews hazard data sources and conducts alternate analyses to identify industrial categories for which new or revised ELGs may be appropriate.

In the “Final 2014 Effluent Guidelines Program Plan,” published in July 2015, EPA announced that it would study oil and natural gas wastewater management, including all CWT facilities accepting such wastewater. Currently, the ELGs in 40 CFR Part 437 apply to CWTs, including CWTs that accept oil and natural gas wastewaters for treatment and discharge.

EPA reports in the “Preliminary 2016 Effluent Guidelines Program Plan” that its study is “ongoing.” EPA has gathered information about CWT facilities across the country and identified those facilities that currently accept or have in the past accepted oil and gas extraction wastewater. EPA also has collected information on wastewater characteristics, wastewater treatment technology effectiveness and costs, environmental impacts of discharges, and economic aspects of the industry, and has inspected some facilities to collect additional site-specific data.

Significantly, EPA states that it is planning to augment this data through a targeted information collection request (ICR). While the agency has not provided details regarding the scope or target of the request, EPA could issue the ICR to CWT facilities and/or operators that generate oil and natural gas wastewater. EPA previously stated in the “Final 2014 Effluent Guidelines Program Plan” that its detailed study may encompass conventional and unconventional operators, zero-discharge CWT facilities, CWT facilities regulated by Part 437, and CWT facilities not regulated by Part 437.

Conclusion

EPA believes the final rulemaking prohibiting the discharge of unconventional wastewater to POTWs is unlikely to affect oil and gas operators. The agency has, however, reserved the right to begin a new rulemaking concerning the discharge of conventional wastewater to POTWs, which could affect extraction and production activities in the Commonwealth.

Additionally, CWT facilities and operators should be prepared for a possible ICR from EPA concerning the management and disposal of oil and natural gas wastewater. Irrespective of whether EPA issues the planned ICR, the data collected by the agency during its ongoing study of oil and natural gas wastewater could be used in a rulemaking to amend the ELGs in 40 CFR Part 437, which could affect the management, treatment, and disposal of conventional and unconventional wastewater at CWT facilities.