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Water Docket
Mr. William F. Swietlik
Engineering and Analysis Division
Office of Water, 4303T
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Comments concerning Preliminary 2016 Effluent Guidelines Program Plan (81 Fed. Reg. 123,41535 (June 27, 2016)). Docket EPA-HQ-OW-2015-0665

Dear Mr. Swietlik,

The American Petroleum Institute (API) appreciates the opportunity to provide comments on the Environmental Protection Agency's (EPA's) preliminary 2016 effluent guidelines plan. Clean water is a top priority for API members, and they work tirelessly to manage our industry's water resources safely and responsibly, under a wide array of continuously improving treatment options.

API is a nationwide, non-profit, trade association that represents over 600 members engaged in all aspects of the petroleum and natural gas industry, including exploration, production, refining, and distribution of petroleum products. API members are subject to effluent limitation guidelines, including those in the Petroleum Refining, Centralized Waste Treatment, and Oil and Gas Extraction point source categories, and thus are directly affected by the 2016 effluent limitation guidelines (ELG) plan.

A. Refining

1. EPA should provide a clear, data-supported justification for proceeding with the detailed study of Petroleum Refining effluent guidelines, or discontinue.

The preliminary 2016 ELG program plan ascertains EPA's intention to continue with its detailed study of the petroleum refining point source category, begun back in 2014, though EPA has yet to clearly identify the need for this review. In API's response to the Final 2012 and Preliminary 2014 Plans (letter, Roger Claff to Docket Clerk, in response to 2012/2014 Plan Notice of Availability, November 17, 2014, hereafter 2014 Comment Letter), API had pointed out need for clarity in EPA's call for a detailed study. Additionally, API had also laid out its objections to EPA's use of Toxic Release Inventory (TRI) data in effluent guideline decision-making. The TRI was never intended to provide precise, accurate wastewater monitoring data and it will be a disservice to scientific and business community, particularly refining industry, to

base effluent guidelines or other water regulatory decisions on such data. From EPA's own 2012 Final Plan:

EPA found one facility's reported discharges contributed to the majority (65 percent) of the dioxin and dioxin-like compound TRI TWP, however this facility's reported discharges are estimated (based on the number of reformer catalyst regenerations) and not directly measured. From the 2010 DMR data for dioxin and dioxin-like compounds EPA only identified one refinery reporting discharging detectable concentrations (above the Method 1613B Minimum Level (ML)), though available data indicates this facility's dioxin discharges result largely from stormwater contaminated via aerial deposition, not the discharge of treated process wastewater.

The data point for dioxin emissions from a single refinery listed within EPA's 2011 Annual Effluent Guidelines Review Report (dated December 2012) is not typical of the refining industry for the following reasons:

1. For calendar year 2009, the subject refinery (Hovensa) reported dioxin emissions based on three catalyst reformer regenerations over that year;
2. For semi-regenerative catalytic reformers (fixed catalyst beds without continuous regeneration), the frequency of catalyst regenerations depends on unit operating conditions, catalyst activity and yield over time and the deposition rate of coke (a byproduct of reforming reactions) onto the catalyst. Once a minimum level of catalyst activity is reached, the reformer catalyst is regenerated by taking the unit off-line and directing heated air through the catalyst beds. Since a source of chloride is injected into the catalyst beds over time to promote the reforming reactions, dioxins are produced as a combustion byproduct of coke in the presence of chlorides; and
3. For a well operated catalytic reformer and naphtha hydrotreater (that feeds the reformer), a typical catalytic reformer regeneration frequency is once every two to three years. As a result, the single annual dioxin emission rate from a Hovensa refinery in 2009 is not typical of the refining industry, should be ignored (but properly referenced) as an outlier and should no longer be used to justify further study of the refining industry toward possibly reopening the effluent guidelines.

Yet EPA has based its decision to conduct the detailed study in part on these sparse and speculative data for dioxin and dioxin-like compounds as well as other compounds or elements. The preliminary 2016 ELG program plan explicitly notes EPA's continued acquisition and review of TRI data under the detailed study. API strongly recommends that EPA discontinue the use of TRI data to justify the detailed study and develop a basis from the currently available precise, accurate, facility-specific effluent monitoring data.

Also in the 2014 Comment Letter, API found EPA's objective for targeting refineries processing heavy crudes to be speculative and unclear. And yet the 2016 Plan declares EPA's intention to continue with an investigation of the effects of heavy crudes on effluents. There is no correlation, nor any need for additional effluent guidelines targeting specific refinery crude

slates. The repercussion of an outcome that places any potential restrictions on refinery crude slates will not only exceed EPA's legal authority but have a devastating effect on the industry and its ability to positively contribute to a competitive American economy. Notwithstanding above implications, crude slate composition is not a predictor of wastewater composition, treatment technology selection, treatment technology performance, or effluent composition.

The preliminary 2016 ELG program plan further calls for continued investigation of new wet air pollution control technologies and their effects on effluent composition. Just as with crude slate, air pollution control technology performance is not a predictor of wastewater composition, treatment technology selection, treatment technology performance, or effluent composition.

Just as with EPA's 2012 Final Plan and 2014 Preliminary Plan, EPA's 2016 Plan offers no data or valid data analysis in support of continuing the detailed study; only speculation to support the pursuit of a limited number of specific wastewater streams and process operations. The preliminary 2016 ELG program plan devotes scant two paragraphs justifying continuation of the detailed study, which will entail a burdensome 308 survey of API member companies, and burdensome self-monitoring of targeted refinery operations and treatment facilities in an attempt to fill data gaps. API urges EPA to halt the detailed study, including the planned 308 survey, refinery site visits, and refinery self-monitoring, and take the time necessary to develop and provide a clear and objective analyses of existing data and information, absent speculation and use of TRI data, to warrant continued work on the Petroleum Refining point source category.

2. Should EPA continue with the detailed study of Petroleum Refining effluent guidelines, EPA must reach out to and engage API, American Petrochemical Manufacturers Association (AFPM) and their member companies as the principally affected stakeholders.

As the principally affected stakeholders in the detailed study of the Petroleum Refining effluent guidelines, the engagement of API, AFPM, and their member companies is essential for an accurate, detailed, and data-informed study. Indeed, since the detailed study began in 2014 EPA has included API, AFPM, and its members in meetings, discussions, conference calls and site visits. We would like to see this collaborative engagement not only just continue but increase as the demands and information needs of the detailed study increase.

We urge EPA to afford API and AFPM the opportunity to review and comment on the 308 survey questionnaire that EPA plans to send to our member companies. As we have already noted to EPA, in addition to providing industry-specific technical input to the questionnaire, API and AFPM can expedite completion by directing EPA to the appropriate refinery contacts. Likewise, we would also recommend EPA to inform API and AFPM of EPA's refinery site visit schedule and afford the opportunity to participate where desired by refinery personnel. Further, we advocate that API, AFPM, and our member companies have the opportunity to provide input and comment on the detailed study during its development.

B. The Final Effluent Limitation Guidelines for Unconventional Oil and Gas (UOG) Wastewater

API is concerned that the ELGs for unconventional oil and gas (UOG) wastewater were finalized as a “zero discharge” pretreatment standard that effectively amounts to a ban on UOG facilities from discharging their produced waters to publicly owned treatment works (POTWs), particularly given a) the expanded scope of the finalized ELG and b) the procedural difficulties outlined in our original comments and reiterated below. Although API members were not currently actively seeking to discharge untreated waters to POTWs, we remain firmly opposed to the permanent removal of an option that has the potential, in different economic circumstances and/or with the advent of improved treatment technologies, to become viable to our industry and water users.

1. EPA should abandon the distinction between unconventional and conventional wells contained in the finalization of the ELG for unconventional oil and gas (UOG) wastewater.

API is deeply concerned that EPA actually made the final rule less clear by failing to heed our comment to the Proposed Rule titled “Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category” (80 Fed. Reg. 18557 (April 7, 2015)):

“API does not support an arbitrary distinction among waters produced by conventional and unconventional formations – particularly when unsupported by a detailed analysis of the characteristics of produced waters that would justify such a distinction, and recommends EPA take a holistic approach to the evaluation of produced water treatment regardless of formation characteristics.”

The Final Rule defines “Unconventional Oil & 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, shale oil, tight gas, tight oil).” This Federal EPA definition may not necessarily be consistent with various state definitions of “Unconventional” or industry terminology, nor does the final rule or preamble clearly define what is meant by “shale or tight formations,” so the distinction between “Prohibited/Unconventional” and “Allowed/Conventional” discharges to POTWs isn’t clear.

As clarification, the preamble appeared to reference page 41851 to the Technical Development Document ([TDD](#)), “for additional information.” The discussion occurs on pages 14-19 of the document, with the most relevant references being on pages 18-19, pointing to Appendix F, Tables F-3 & F-4 of the TDD for a list the formations nationwide that EPA is considering to be either “shale” or “tight,” which they based on a similar listing in an EIA document, [Assumptions to the 2015 Annual Energy Outlook](#) (Table 9.3).

However, applying these as written also becomes problematic. In addition to the Marcellus & Utica Shales, those referenced tables also list the Devonian, Clinton-Medina, & Tuscarora formations, which have been drilled for decades in Pennsylvania as “Conventional” wells. That quickly highlighted the significant difference between how EPA is apparently defining “Unconventional” vs how Pennsylvania defines “Unconventional.” For example, in Pennsylvania, any shale formation above the Elk Sandstone and any tight formation other than

shale (such as the Devonian, Clinton-Medina, & Tuscarora), are defined as ‘Conventional’ – i.e., there are tens of thousands of those old “shallow” vertical wells in PA, which are apparently now being defined by EPA as “Unconventional” for this rule and therefore (or at least presumably) subject to the POTW prohibition. It is therefore easy to envision a case where this rule could preclude Pennsylvania-defined conventional wastewaters from being discharged to POTWs, based on the inclusion of these additional formations.

2. **EPA should withdraw the final ELG on UOG wastewater because they knew or should have known that this definition would be problematic.**

In its final ELG for UOG wastewater, EPA established distinctions between ‘conventional’ and ‘unconventional’ wells which:

- 1) differed substantially from the text proposed to stakeholders in the proposed ELG;
- 2) relied on federal distinctions established only for statistical data gathering purposes;
- 3) originated with this rulemaking (i.e., was not previously used by any other federal mineral or environmental regulatory agency);
- 4) conflicted with an existing Pennsylvania state regulatory definition of the same term; and
- 5) contravened clear and direct comments in the docket from the impacted industry.

We strongly believe that EPA should have developed a change of this magnitude in collaboration with the impacted industry, the states, and other stakeholders - not in isolation from them.

To make matters worse, approximately two weeks after issuing the final ELG on UOG wastewater, EPA published its preliminary 2016 ELG program plan in the Federal Register – with an announcement containing what EPA itself describes as a **first-time request** concerning the use of POTWs to treat conventional wastewater.

Codifying a change of this magnitude in isolation from the impacted industry – and only **retroactively** seeking information as to its actual costs and unintended consequences - is unquestionably an overreach on the part of an EPA Office of Water which continues to circumvent key procedures. It also represents an oversight by the Office of Management and Budget (OMB) which reviewed both documents.

This definitional issue takes on added significance in view of that fact that, as referenced above, we believe that EPA overlooked mandatory technical prerequisites to promulgating pretreatment standards - as summarized in Table 1 from p. 19 of our 2015 comments, included below for ease:

Table 1: Summarizing Deficiencies in EPA’s Approach to Pass Through and Interference

Essential Prong of Pass Through and Interference Analysis	Problematic Aspects of EPA’s Analysis
(1) identify pollutants of concern	<ul style="list-style-type: none"> EPA’s analysis did not identify any specific pollutants of concern, instead determining that the produced water itself was the pollutant of concern regardless of its actual constituents and their concentrations. This sweeping definition oversteps EPA’s statutory authority by effectively precluding access to Congressionally mandated removal credits and making it impossible for states to implement a different, equally stringent standard as allowed per the CWA.
(2) evaluate the presence and concentration of those pollutants of concern in the industry’s effluent	<ul style="list-style-type: none"> EPA did not identify the presence of pollutants of concern in industry’s effluent. EPA’s analysis discussed various types of pollutants found in produced water but never characterized the pollutants in the produced water. In fact, EPA’s own analysis revealed that the constituents of produced water were far too variable to universally characterize.
(3) evaluate the likelihood that these pollutants of concern could cause the POTW to exceed its NPDES permit limits	<ul style="list-style-type: none"> This was missing from EPA’s analysis because EPA never identified the pollutant(s) of concern. EPA discussed the potential for TDS to pass through a POTW but TDS is a bulk parameter - not a pollutant. EPA was also unable to identify an applicable limit for TDS from which it could evaluate pass-through potential.
(4) if pass-through or interference are expected to occur, compare the removal capability of the discharging industry to the removal capability of a “well-operated POTW.”	<ul style="list-style-type: none"> EPA began, rather than ended its analysis, with removal efficacy in a way that would obviate differences between pretreatment standards and the NPDES program. EPA essentially circumvented the pass-through analysis by citing to industry’s ability to meet zero-discharge requirements under the NPDES program. In doing so, EPA ignored that its technological comparisons must be made between “discharging” industries and POTWs “performing secondary treatment” – not to disposal options.

As we noted in our original comments, we believe this rule as finalized is environmentally unsound – it provides no clean water benefits because POTW discharge limitations already prohibited POTWs from accepting produced waters which have not previously undergone extensive treatment and it may in fact cause environmental harm by permanently removing one of the few discharge options by which industry can return water to the hydrologic cycle.

C. Study of the Centralized Waste Treatment Facility Study

Despite the fact that the study of the centralized waste treatment (CWT) point source category for facilities accepting oil and gas extraction wastewater was first proposed in 2014, very little additional information about that study is contained in the preliminary 2016 ELG

program plan, or detailed on the EPA's website. This is especially disconcerting because EPA's decision to study the CWT point source category was based on public comments from non-governmental organizations (NGOs) rather than on the more objective (and more frequently used) analysis of toxics-weighted pollutant loadings.

1. EPA must be forthcoming about information related to the study at the appropriate, pre-determined intervals for public comment.

Publication of the preliminary 2016 ELG program plan is supposed to be an opportunity for EPA to provide stakeholders with meaningful information about their work and its progress. Instead, the document contains approximately ten lines about the CWT study – substantially less information than was provided on other similar efforts.

Nearly two years into the study, EPA has not yet even offered stakeholders a detailed written description of the CWTs it intends to include in its study. No ELG plan released by EPA to date has offered an objective description of the CWT point source category, or the constraints upon which the definition is based. The ERG memo which EPA mentions is overly broad, and again seems to offer no clarification due to the substantial differences among the CWTs it listed.

Even generously assuming that EPA was spending taxpayer funds on a justifiably broad exploratory study AND taking into account that the time required for various levels of approvals and OMB review, this study was proposed in 2014 and EPA has indicated verbally that they believe it will be completed in 2016. Surely by January 2016, EPA should have been able to populate the 2016 preliminary effluent guideline plan with at least the key criteria for the CWTs that are the subject of its study. For example:

- Do they receive wastewaters from more than one source?
- Are those sources located off-site from facilities providing wastewaters for treatment?
- Are the facilities owned by third parties (i.e., not owned by parties providing wastewaters for treatment)?

API wholly agrees that the outcome of the study should not be predetermined; however, a study without clearly articulated boundaries risks becoming an endless fishing expedition. It also deprives industry, state regulators, and other stakeholders of the opportunity to provide the type of targeted feedback that would ultimately lead to more meaningful results. The extensive disclosures necessary for a rulemaking may not be necessary for merely a preliminary study; however, neither should the specific direction of that preliminary study remain a mystery 1) after over a year of work and 2) less than six months away from its targeted completion date.

2. The scope of the CWT Study should be limited to those facilities defined as CWTs within 40 CFR Part 437.

If, as defined by the effluent guidelines, regulations the CWTs that receive oil and gas extraction wastewaters are not owned or operated by companies within the petroleum industry,

EPA's detailed study must target those facilities themselves and not petroleum industry companies.

Likewise, if a dedicated or on-site wastewater reclamation facility is not a CWT, whether or not that facility is owned or operated within the petroleum industry, EPA's detailed study cannot properly include those facilities.

Again, it is inexplicable why this basic information was not provided to the public in the preliminary 2016 ELG program plan.

3. **If evaluating treatment of oil and gas wastewater, the CWT study should consider the unique benefits provided by CWTs and also the recognition of those benefits by state regulators.**

For the oil and natural gas industry, the environmental benefits of CWTs include at a minimum the following:

- CWTs produce useable quality water which can be returned to the hydrologic cycle. This is particularly important in arid areas.
- CWTs play an important role in providing the volume of water necessary for POTWs to function economically.
- CWTs eliminate or significantly reduce truck traffic to haul water to a UIC disposal well, thus reducing the safety, environmental, and nuisance concerns commonly associated with truck traffic.
- CWTs often yield increased efficiency and improved operating effectiveness compared to the treatment that can be done on a smaller scale at the well site.
- CWTs often provide economies of scale for water treatment and in some cases may reduce costs when compared to UIC disposal wells or well site treatment for the reasons above. The reduced operating costs allow wells to produce longer - thereby adding reserves which increase the supply of oil and gas and help to maintain lower prices for the consumer.
- CWTs provide important infrastructure and technology solutions in regions where other options (e.g., disposal or reuse) may not be readily available.

These benefits are even more essential now that EPA has eliminated the option for UOG to be sent directly to POTWs. CWTs are one of only a very few methods for managing produced water. The other alternatives are essentially disposal through a permitted underground injection well (which cannot be considered treatment for the purposes of ELGs) or treatment at the well site (non-centralized), and neither option is analogous to CWTs in terms of environmental benefits.

As EPA's work progresses, it is important to note that States have also recognized the benefits of CWT treatment. In fact, when the Texas Railroad Commission (RRC) revised rule Rule 3.8 in 2012, a key change facilitating CWT use was that water impoundments for reusing or

recycling larger volumes of water typically associated with CWT would no longer be subject to a lengthy permitting process. (Under the new rule, the technical requirements for the impoundments were largely unchanged, but the streamlining of the permitting process has facilitated greater recycling.) The importance of this change, as well as some of the new plants and technologies which benefitted from it, were discussed by operators and service companies at a Water Conservation and Recycling Symposium held by RRC Commissioner Ms. Christi Craddick in 2014.¹

Preserving discharge options through CWTs is even more pivotal during times like the present, when oil and gas completions need less water than that which is being produced from existing wells. EPA itself outlined this scenario in the Technical Development Document (TDD) corresponding to EPA’s 2015 Proposed Rule titled “Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category” (80 Fed. Reg. 18557 (April 7, 2015)) (see Figure D-6 from the TDD below). The reduced demand in this scenario effectively rules out water reuse by other oil and natural gas companies. If CWTs were to suddenly become unavailable, areas with limited or no (Underground Injection Control) UIC disposal wells may be left with only the solution of long distance trucking of water to nearby states with UIC capacity.

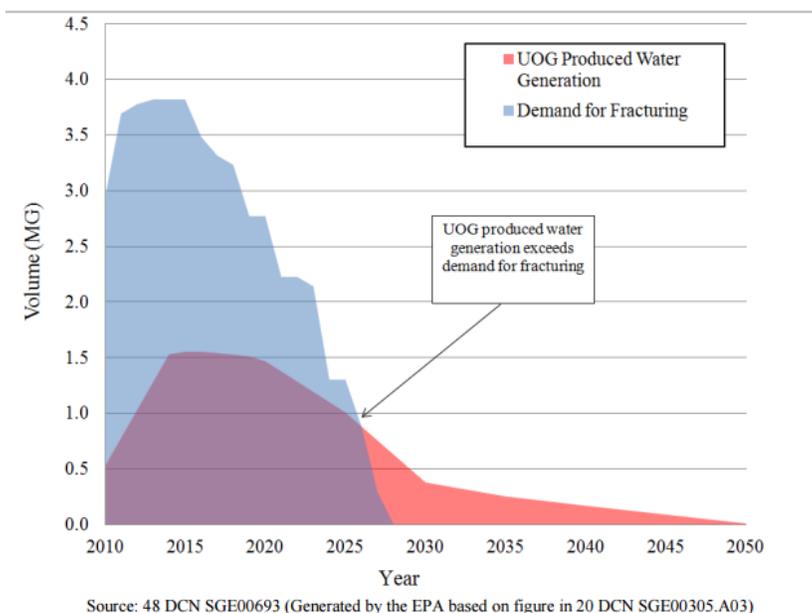


Figure D-6. Hypothetical UOG Produced Water Generation and Base Fracturing Fluid Demand over Time

D. Other Requested Information

In this Federal Register notice, EPA also solicited comments on “(c) Conventional Extraction in the Oil and Gas Industry” and “(d) Produced Water Discharges in the Oil and Gas Industry.” The federal register notice indicated that this was the first time such information was

¹ See Texas Water Conservation and Recycling Symposium at <http://www.rrc.state.tx.us/about-us/commissioners/craddick/water-recycling-symposium/>

being requested, and provided no information about the rationale for requesting such information beyond merely supporting the findings, actions, and conclusions in the preliminary 2016 ELG program plan. We question what these actions may be, as EPA's preliminary 2016 ELG program plan did not address future work relating to either 1) wastewater resulting from conventional oil and gas extraction or 2) beneficial use.

In fact, the only potential linkage we see between conventional oil and gas wastewater and activities discussed in the preliminary 2016 ELG program plan would seem to be the arbitrary, impractical, and problematic distinction between 'conventional' and 'unconventional' in the 2015 final ELGs for UOG wastewater. We reiterate that EPA should have requested and reviewed this information PRIOR to codifying into an environmental regulation a distinction which the federal government had previously used only for statistical purposes. We strongly believe that the proper procedure should have been postponing the rulemaking until sufficient information could be obtained, rather than retroactively seeking to assess the impacts by requesting additional information less than two weeks after the publication of the final rule.

To complicate matters further, 1) the requests for information in this Federal Register notice seemed to be overly broad, soliciting information on all manner of the transfers of wastewater, facilities, pollutants, treatment fluids and workover fluids and 2) information was requested during a short approximately 30-day time period accompanying the preliminary 2016 ELG program plan, which was insufficient for any type of trade association survey.

Under such a limited comment period, we believe that the federal and state discharge permits associated with National Pollutant Discharge Elimination System (NPDES) permits are the best sources of the information that EPA is seeking.

Additionally, rather than relying on such broad requests, we encourage EPA to reach out to the oil and natural gas industry with specific questions as they arise.

Thank you for your consideration of the above comments. We look forward to working with you on these important issue; consequently, please feel free to contact me if you have any questions about relating to ELGs on UOG wastewater or the CWT study, and my colleague Roger Claff if your questions relate to the continuing study of the Petroleum Refining Category.

Sincerely,



Amy Emmert
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cc:

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