October 7, 2013

Water Docket, U.S.
Environmental Protection Agency, Mail Code 2822T
Attn: Docket ID No. EPA-HQ-OW-2010-0824
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Re: Comments on EPA's Preliminary 2012 Effluent Guidelines Program Plan
and 2011 Annual Effluent Guidelines Plan,
Docket ID No. EPA-HQ-OW-2010-0824

These comments are filed on behalf of the Independent Petroleum Association of America (IPAA), the Association of Energy Service Companies (AESC), the International Association of Drilling Contractors (IADC), the International Association of Geophysical Contractors (IAGC), the National Stripper Well Association (NSWA), the Petroleum Equipment Suppliers Association (PESA), and the following organizations:

Arkansas Independent Producers and Royalty Owners Association
California Independent Petroleum Association
Coalbed Methane Association of Alabama
Colorado Oil & Gas Association
East Texas Producers & Royalty Owners Association
Eastern Kansas Oil & Gas Association
Florida Independent Petroleum Association
Illinois Oil & Gas Association
Independent Oil & Gas Association of New York
Independent Oil & Gas Association of West Virginia
Independent Oil Producers Agency
Independent Oil Producers Association Tri-State
Independent Petroleum Association of New Mexico
Indiana Oil & Gas Association
Kansas Independent Oil & Gas Association
Kentucky Oil & Gas Association
Louisiana Oil & Gas Association
Michigan Oil & Gas Association
Mississippi Independent Producers & Royalty Association
Montana Petroleum Association
National Association of Royalty Owners
Nebraska Independent Oil & Gas Association
New Mexico Oil & Gas Association
New York State Oil Producers Association

North Dakota Petroleum Council
Northern Alliance of Independent Producers
Northern Montana Oil and Gas Association
Ohio Oil & Gas Association
Oklahoma Independent Petroleum Association
Panhandle Producers & Royalty Owners Association
Pennsylvania Independent Oil & Gas Association
Permian Basin Petroleum Association
Petroleum Association of Wyoming
Southeastern Ohio Oil & Gas Association
Tennessee Oil & Gas Association
Texas Alliance of Energy Producers
Texas Independent Producers and Royalty Owners Association
Utah Petroleum Association
Virginia Oil and Gas Association
West Virginia Oil and Natural Gas Association
Western Energy Alliance

Collectively, these groups represent the thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts, that will be the most significantly affected by the proposed actions in these regulatory actions. Independent producers drill about 95 percent of American oil and natural gas wells, produce about 54 percent of American oil, and more than 85 percent of American natural gas.

In addition to the specific comments made herein, we support those comments submitted separately by the participants in these comments.

These organizations support EPA in delisting the Coalbed Methane (CBM) Extraction subcategory from the Effluent Guidelines Plan. IPAA has addressed the issue of the benefits of developing an Effluent Limitation Guideline (ELG) for CBM produced water in past comments. As stated previously, IPAA does not believe that a CBM ELG is an appropriate or necessary path for EPA to follow. Consequently, as IPAA has stated in the past, any judgment to proceed in an ELG development process should address certain key issues. Foremost among these are:

1. Whether EPA's resources and efforts are justified by the ultimate environmental outcome;
2. Whether the current wastewater discharge permitting process would change appreciably; and,
3. Whether the consequences of a specified ELG would adversely affect CBM production.

Addressing these issues requires a review of the current process. First, it is important to recognize that the National Pollutant Discharge Elimination System (NPDES) permitting process is structured to delegate the actual permitting process to state regulatory agencies. Second, while the current Oil and Gas Extraction ELG does not specifically address CBM, this does not mean that CBM wastewater discharges are unregulated or unpermitted. Instead, the same state regulatory agencies that would be delegated NPDES authority under a new CBM ELG are developing discharge permits under a fully sanctioned permitting approach – Best Professional Judgment (BPJ). EPA characterizes BPJ as follows:

> In the absence of effluent limitation guidelines for a facility category, permit writers establish technology-based controls using their Best Professional Judgement. In essence, the permit writer undertakes an effluent guideline-type analysis for a single facility. The permit writer will use information such as permit limits from similar facilities using similar treatment technology, performance data from actual operating facilities, and scientific literature. Best Professional Judgement may not be used in lieu of existing effluent guidelines. These guidelines apply only to direct dischargers of wastewater.

Given that BPJ effectively develops ELG-like analyses for individual dischargers, the current state programs have in place a process that evaluates the specific circumstances that each situation raises – a more comprehensive approach than an ELG provides. Consequently, even if EPA were to develop a CBM ELG with extensive subcategorization, it would not produce as flexible or diverse a system as the current one.

Similarly, rather than improving the permitting process, the ELG could actually worsen it. An ELG for CBM production differs significantly from most of the industrial ELGs that have been developed. The basic purpose of an ELG is to provide wastewater treatment consistency between similar industrial operations across the nation. However, there are critical distinctions between typical industrial operations and CBM production. Most industrial operations acquire water of some quality for various uses within the facility – cooling water, water for steam with the attendant condensate, water for various process operations. In the course of the industrial processing, water is contaminated in predictable ways. Correspondingly, the treatment options are relatively straightforward. CBM production does not follow this model. CBM produced water comes from the coalbed formation and there is no ability to alter that initial water quality. Consequently, the treatment options are defined by the nature of the water source – with the potential that the location of the production may provide for beneficial uses.

Because an ELG is based on existing technologies applied to existing operations, an ELG cannot anticipate the appropriate technologies for future developments. Under such circumstances the state agencies would need to turn again to BPJ analyses and permits. However, because an ELG for CBM would exist, the state would now have to justify the use of BPJ and the permit process could be challenged – delaying development for no environmental benefit.

Overall, the potential ELG process being considered does not present a strong case for action. The current BPJ approach addresses the technology and environmental issues that arise related to CBM production. There is no apparent significant environmental benefit associated with developing an ELG but there are potential downsides.

EPA has now released its *Economic Analysis for Existing and New Projects in the Coalbed Methane Industry* report, published on July 29, 2013. Its conclusions state:

> Overall, this analysis shows that based on the 2008 CBM survey data and a 2010 data review, a large fraction of existing CBM projects are no longer economically viable, independent of the wastewater discharge requirements considered in this analysis. Specifically, EPA estimated that approximately 25 percent of existing CBM projects either closed immediately in 2008 or were non-operational by 2010. EPA expects that an additional 43 percent of the existing CBM projects reported in 2008 were shut down by 2012. The deteriorating economic viability of

these projects results largely from declining natural gas prices since the time of the CBM survey.

For the analysis of the impact of wastewater discharge requirements on existing projects, EPA focused on the 112 CBM projects that were found economically viable out of the 148 total projects given the 23 immediate baseline closures estimated through the 2008 assessment and 13 projects found non-operational in 2010. Of these 112 CBM projects, EPA found that the wastewater technology options considered in this analysis would lead to immediate or earlier shutdown of CBM projects and losses in gas production than would occur in the absence of technology costs. Specifically, EPA estimated that under the IX[1] treatment option, 24 percent of the 112 projects estimated to be economically viable in the baseline would shut down immediately, with an additional 26 to 33 percent experiencing losses in production life. Under the UI[2] disposal option, 27 percent of the 112 economically viable projects would shut down immediately, with an additional 38 to 44 percent experiencing losses in production life. In general, because UI disposal costs are higher than IX treatment costs, the loss in production life and quantity is greater under the UI option than that under the IX treatment option.

Further, this analysis found that new CBM projects in most CBM gas basins are not economically viable at current natural gas prices, independent of the wastewater discharge requirements considered in this analysis. For most basins and analysis cases, natural gas prices need to increase substantially above currently low levels before new CBM projects become economically viable. If CBM developers seek a level of financial return indicated to EPA by CBM industry representatives (17 percent), projects are not currently viable in any of the CBM basins analyzed under a range of natural gas price growth cases. Using the rate of return of 17 percent indicated by CBM project developers, new projects would not be viable until 2018 – 2049 with most new projects delayed by at least 30 years. For the 7-percent required rate of return case, CBM projects appear currently viable in only three of the seven discharging CBM basins, and these instances most often occur under higher natural gas price growth cases.

Accounting for costs of the wastewater discharge requirements considered in this analysis generally lengthens the delay until new CBM projects would become economically viable. Under either the IX treatment or UI disposal options, additional delays before projects would be economically viable – beyond the delays already discussed above for new projects to become viable even without such requirements – range from zero years to over 20 years. For the IX treatment option, using industry's indicated rate of return of 17 percent, most model projects experience an additional delay of two years. Under the more expensive UI disposal option, additional delays range from 1 to more than 20 years. Using the 17-percent rate of return, most projects experience a delay of over 20 years. In summary, the addition of wastewater discharge requirements would substantially burden the economic/financial performance of new CBM projects, and would

[1] IX refers to ion exchange treatment technology
[2] UI refers to underground injection technology

> further delay project viability by a significant number of years for most projects, regardless of the natural gas growth cases or the financial return sought by CBM project developers.
>
> Overall, EPA found that applying wastewater discharge requirements would impose significant burdens in terms of immediate or early shutdown and loss of gas production from the projects that remained economically viable at 2008 and 2010. For new projects, EPA reached the following findings: (1) CBM projects do not generally appear economically viable at present, and for many development opportunities, for substantial periods into the future, and (2) discharge requirements would further delay these projects' economic viability.
>
> Given these findings for both existing and new sources, EPA's judgment at this time is that it should not move forward with additional regulation of wastewater discharges from CBM projects. Pending changes in CBM gas production economics, and increased volume of CBM activity and wastewater discharges, and possible changes in the available wastewater management approaches and/or associated costs, EPA may revisit this decision in future years.

EPA's conclusions reflect several pertinent realities. First, the conclusions reflect the shift in American natural gas from CBM. This change has made the development of CBM a less likely choice. And, as EPA concludes, the addition of the costly wastewater treatment requirements EPA envisioned as part of its ELG development would further thwart the use of this natural resource.

Second, the judgments are consistent with the reality that less wastewater will be created because of reduced development of CBM. EPA describes the reality of CBM wastewater production in its document, *Technical Development Document for the Coalbed Methane (CBM) Extraction Industry* (April 2013), where it explains the nature of CBM wastewater:

> The typical lifespan of a CBM well is between five and 15 years, with maximum methane production often achieved after one to six months of water removal (Horsley & Witten, 2001). CBM wells go through the following production stages (De Bruin et al., 2001):
>
> - An early stage, in which large volumes of formation water are pumped from the seam to reduce the underground pressure and encourage the natural gas to release from the coal seam.
> - A stable stage, in which the amount of natural gas produced from the well increases as the amount of formation water pumped from the coal seam decreases.
> - A late stage, in which the amount of gas produced declines and the amount of formation water pumped from the coal seam remains low.
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> Figure 3-1 generalizes the gas and water production curves for CBM wells.

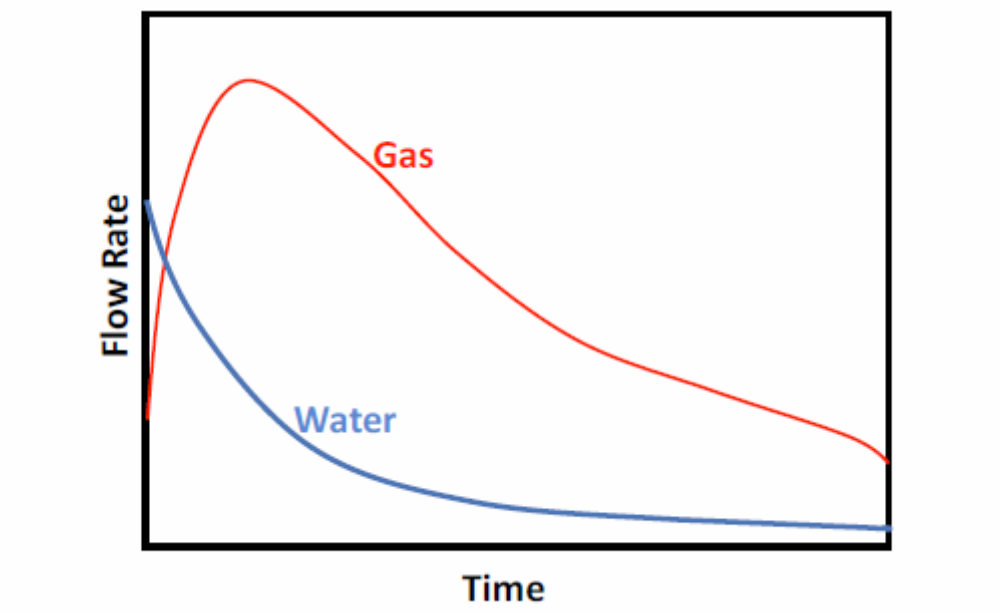
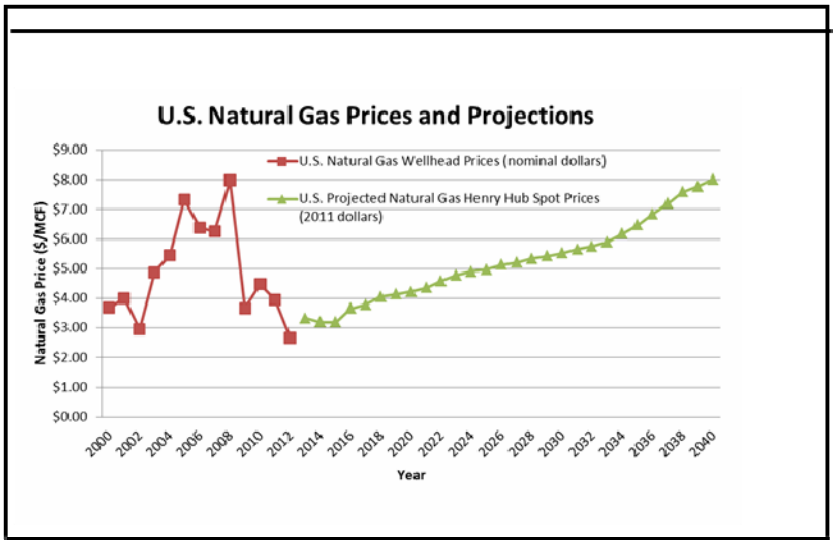


Figure 3-1. Generalized Gas and Water Production Curves for CBM Wells

This production profile is very different from conventional gas or oil production. Most conventional gas wells produce relatively little water throughout their lives, although some increase in water production might occur as the well ages. Oil wells, or those which produce both gas and water, tend to produce little water at first, with production of water rising as the well ages. A frequently used model of the production from conventional oil or oil and gas wells assumes a constant decline rate for oil with an inverse growth rate in water, achieving a constant production of total fluid over time (see, for example, Appendix C in U.S. EPA, 1996).

Third, it makes its judgments on more realistic prices of natural gas. The earlier CBM analyses were based on natural gas prices that existed for a short period of time and no analysts expect that future prices will return to these levels in the foreseeable future. EPA includes the following graphic in its economic analysis to demonstrate the nature of these price shifts.

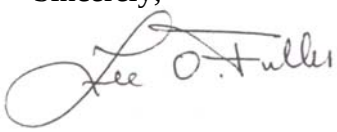


Fourth, it is important to reiterate that where CBM projects are developed, they are developed in concert with state regulatory agencies to employ wastewater management technologies that have protected the environment.

In the end, EPA correctly concludes that many CBM projects are no longer economically feasible considering current declines in natural gas prices. The economic review of various treatment technologies demonstrates that additional technology costs would further reduce feasibility of existing and future projects. We concur with this view and strongly support the decision to delist the the Coalbed Methane (CBM) Extraction subcategory from the Effluent Guidelines Plan.

If we can provide further information, please contact Lee Fuller at lfuller@ipaa.org or by phone at 202-857-4722.

Sincerely,



Lee O. Fuller