

Comments of America's Natural Gas Alliance

Science Advisory Board's Quality Review Draft Report of the Ad Hoc Panel's Review of EPA's Draft Hydraulic Fracturing Study Plan

America's Natural Gas Alliance (ANGA) appreciates this opportunity to comment on the Environmental Protection Agency (EPA or Agency) Science Advisory Board's Quality Review Draft Report (Draft or Draft Report) that was released on June 14, 2011.

ANGA is an educational and advocacy organization dedicated to increasing appreciation for the environmental, economic, and national security benefits of North American natural gas. ANGA's members include many leading, North American independent natural gas exploration and production companies. Their collective natural gas output of approximately nine trillion cubic feet per year comprises approximately 40 percent of the total annual U.S. natural gas supply.

As acknowledged by EPA, the safe and environmentally responsible development of our domestic stores of natural gas has been and, increasingly, will be, an important component of America's energy supply and economic health. Adapting hydraulic fracturing methods to develop shale based natural gas resources has materially increased the available domestic natural gas supply. Natural gas is a clean-burning, efficient, and cost-effective fuel that offers the potential both for significantly decreasing air emissions, and promoting America's energy independence.

Fracturing technology has been used safely at more than one million domestic gas wells over the past sixty years. History demonstrates that hydraulic fracturing can generate abundant, secure energy supplies, without adverse consequences to drinking water, if conducted with appropriate environmental and engineering controls. ANGA supports EPA's effort to design an objective and scientifically valid study to confirm what its members long have observed in practice—that hydraulic fracturing, as a method for developing natural gas, may be conducted in a safe and environmentally responsible manner.

ANGA submitted comments to EPA regarding its scoping materials and draft hydraulic fracturing study plan, as well as to the SAB regarding its draft comments and recommendations to EPA. In those comments, ANGA supported efforts to focus EPA's study on drinking water concerns specific to hydraulic fracturing, and to continue to engage a broad and balanced range of stakeholders to inform the review process, and requested that EPA and SAB rely on existing regulatory standards and definitions to evaluate any potential impacts, maintain objectivity, and ensure that that the Agency relies on quality data.

ANGA supports the SAB's recommendations that EPA further narrow and focus its study on the potential impacts of hydraulic fracturing on drinking water resources, and appreciates the SAB's efforts to avoid language that suggests a negative bias. The scope anticipated by EPA remains too broad, given the request of Congress, as well as the time and budget available for the study. ANGA renews its requests to further narrow the scope of EPA's study so that the Agency focuses exclusively on the potential influences of hydraulic fracturing to drinking water

resources, and to further revise the language used in the study description to help maintain objectivity as the Agency develops its study plan.

Based on its review of the SAB's Draft, ANGA offers these additional preliminary comments.

Proposed Study Objective and Scope

- ANGA continues to support the SAB's recommendation that EPA narrow and focus its study plan so that EPA can complete its study on time and within its budget, and renews its request that the SAB further refine its recommendations to focus on the potential influences of hydraulic fracturing to drinking water resources.
- The SAB's recommendations that EPA take a broader view with respect to water quantity by incorporating a review of water flows through the surrounding hydrological cycle, and by identifying water quantity issues associated with the inter-basin transfer of post-fracturing produced water are inconsistent with the SAB's important overarching suggestion that EPA narrow and focus its review. ANGA renews its request that the SAB reconsider these recommendations.
- ANGA supports the SAB's recommendation that EPA clarify whether the scope of EPA's proposed research will focus on hydraulic fracturing in shale plays or will consider hydraulic fracturing as it is used in various types of formations. That clarification will avoid attributing focused research findings across all formations.
- ANGA supports revisions stepping back from the SAB's earlier proposed recommendation that EPA broaden its definition of "drinking water resources." ANGA respectfully requests, however, that the SAB redraft its revised recommendation that EPA not "automatically exclude from consideration potential impacts on a water sources having more than 10,000 mg/L of total dissolved solids if it could reasonably be anticipated to be a viable source of water supply in the future." Such a recommendation would support the unilateral expansion by EPA of a well established definition. The specific Congressional request motivating the underlying study incorporated current legal standards, not standards that EPA might propose. Moreover, unless it is further modified, this recommendation would still add unnecessary, time-consuming and potentially costly issues to be addressed in a process that lacks both the necessary temporal and economic resources. EPA should not in this process develop standards to determine what could "reasonably be anticipated to be a viable source of water."
- ANGA disagrees with SAB's recommendation that EPA include "parameters for which [maximum contaminant levels (MCL)] have not been established." MCLs provide an accepted means of assessing the quality of drinking water supplies. Abandoning those long standing standards could introduce uncertainty and raise questions about the validity of any conclusions or recommendations EPA might advance as a result of its study.
- ANGA continues to support the SAB's recommendation that EPA "carefully consider the quality" of the data used in its analysis, as well as its recommendation that EPA rely on peer reviewed information "as much as possible." In the event that EPA cannot rely on

peer reviewed information, ANGA renews its request that EPA look into and disclose the publicly known positions that have been advocated by all individuals or entities that provide data.

Proposed Research

- ANGA continues to support the SAB's recommendation that the Draft Study Plan address a means of collecting baseline data before hydraulic fracturing operations begin so that changes to water quantity or quality can be more readily documented and assessed. ANGA renews its recommendation that EPA focus its research on potential impacts to long-term ground or surface water flows. All water withdrawals will have some short-term impact on ground and surface water flows, but withdrawals for hydraulic fracturing operations are temporary, which should allow ground and surface water flows to recover.
- ANGA requests that the SAB modify its recommendation that EPA consider developing a "vulnerability index" to determine those water supplies particularly susceptible to adverse impacts on water quality or quantity. Such an index cannot be properly devised, developed and promulgated in the limited context of the study requested by Congress. The SAB should drop that recommendation.
- ANGA continues to support the SAB's recommendation that EPA consider what role the recycling and reuse of hydraulic fracturing fluids play or will play in influencing the quantity and composition of hydraulic fracturing fluids. ANGA questions, however, whether the current study includes enough time or money to meaningfully address those issues.
- While well construction activities are important to the fracturing process, ANGA questions the SAB's recommendation that well drilling and cementing practices be a separate research question. This research would exceed Congress's specific request to assess the potential impacts of hydraulic fracturing to drinking water resources. ANGA continues to support the SAB's recommendation that EPA prioritize assessment of the potential impacts of the hydraulic fracturing process on drinking water resources over the potential for contaminants to enter drinking water resources through the well or cementing practice.
- The current draft seems to better appreciate the potential impacts associated with faulty well construction.
- To the extent this study will focus on those areas, ANGA agrees with the concepts underlying SAB's recommendation that EPA use a risk assessment framework to assess and prioritize research activities for the lifecycle stages of flowback and produced water.
- If proprietary information regarding the composition of fracturing fluids is collected, EPA should treat such data in accordance with existing confidential business information guidelines.

- ANGA disagrees with the SAB recommendation that EPA add a postclosure/well abandonment phase as part of the lifecycle assessment. It is the fracturing process and its possible influence on drinking water supplies that Congress asked EPA to study. These wells are used only briefly, typically shortly after they are constructed, for hydraulic fracturing. They almost immediately become natural gas production wells, after the fracturing process is complete. Congress did not ask for a study relating to these wells once they enter their production phase. For the same reasons, SAB should drop its recommendation that EPA “determine if there is historical evidence to indicate if there are any differences regarding the postclosure/well abandonment phase of hydraulic fracturing wells when compared to ... other types of wells.”
- ANGA continues to question the basis for the SAB’s recommendation that EPA evaluate the potential for inorganic materials such as saline and bromide, and radioactive produced water to impact drinking water resources from water and wastewater treatment facilities. That inquiry would exceed the Congressional request to EPA.
- ANGA continues to question the SAB’s recommendations that all POTWs that accept hydraulic fracturing return flows be included in the retrospective studies in the assessment of the impacts of total dissolved solids and that EPA consider examining potential impact to wastewater treatment plants that have to analyze treated effluent for fracturing contaminants. The portion of hydraulic fracturing waste waters that are processed through treatment facilities will continue to diminish. Nor is it clear that such an inquiry falls within the Congressional request to EPA. Consequently, it would make little sense to focus limited time and resources on those questions.
- The SAB’s recommendations that EPA use micro-seismic monitoring to develop fracture models, and that EPA include in its study an assessment of worst case scenarios and catastrophic failures such as the creation of earthquakes, are well beyond the scope of the inquiry requested by Congress.
- ANGA supports the SAB’s recommendation that EPA include an assessment of the uncertainties of its research findings and conclusions. As the SAB points out, EPA is taking on a significant study in a politically controversial area. Consequently, its work will be closely scrutinized and should include clear statements regarding the limitations of its analysis and conclusions.

Bias

- ANGA renews its request that EPA maintain as much objectivity as possible in its analysis. ANGA supports revisions to conclusory statements in the Draft Report, but respectfully requests that the SAB further revise its recommendations to avoid interjecting a negative bias into the study. For example, in the original Draft Report, the SAB stated that “the handling of the flowback and produced water represents the most likely important route of exposure and potential for adverse impacts on drinking water resources . . . on a national level...” This has been changed to the “handling of liquids that are brought back to the surface...represents an important route of exposure and has potential for adverse widespread environmental impacts...” Both presentations reflect a

bias that is neither constructive nor appropriate at this stage of the process. Similarly, the SAB's statement that companies involved in the prospective case studies "will likely follow best management practices and take extra precautions," and thus may not be representative of a "more typical [hydraulic fracturing] site" and may not provide "answers about the management practices to mitigate impacts to drinking water resources," has been changed to "the impact of which will be difficult to assess." An implicit bias, carefully secreted within a document is no less objectionable than one that is stated openly. There is no reason to question the good faith and objectivity of companies that may provide data for prospective studies. The objectionable language should be dropped, in its entirety, not hidden. The objective analysis requested by Congress should proceed before any conclusions are reached. ANGA's members strive to act responsibly and in environmentally prudent ways in their fracturing work.

Case Studies

- ANGA disagrees with the SAB's recommendation that EPA conduct at least one watershed-scale retrospective case study. The suggestion is inconsistent with the time and budget limitations facing EPA. ANGA objects to the SAB's suggestion that EPA consider the Ohio River Basin for a case study, and SAB's unsupported assertion that watershed-scale drinking water impacts are already suspected there. ANGA is aware of no evidence that would support either the SAB's conjecture or any action by EPA that relied upon it.

Environmental Justice Considerations

- ANGA disagrees with the SAB's suggestion that EPA ensure that environmental justice concerns are addressed by evaluating the socioeconomic implications of hydraulic fracturing and its potential impacts on drinking water resources, as well as the cumulative impact of other environmental challenges facing environmental justice communities. Such an inquiry is beyond the scope of the request advanced by Congress, and there is no basis to presume that environmental justice communities may somehow be prejudiced by fracturing activities. Indeed, environmental justice considerations warrant the environmentally safe development of domestic natural gas resources.

Follow up Studies

- ANGA questions whether EPA has the time or budget to address the "cumulative consequences of carrying out multiple [hydraulic fracturing] operations in a single watershed or region," taking into account, for example, the "role of disturbing and re-vegetating many acres of land, the presence of multiple well pads on the landscape, and how these changes...affect the water budget and downstream water quality," as the SAB proposes. Recognizing such research exceeds the scope of Congress's request, the SAB recommended that the Draft Study Plan characterize the "incremental impacts" of hydraulic fracturing, and develop a "framework" to later assess the cumulative impacts of all environmental exposures and risks, as well as cumulative impacts. While ANGA understands that the results of such research might, some day, inform policymaking or lead to additional studies, ANGA is concerned about the pre-judgment implicit in SAB's

advice. EPA should continue to focus its assessment only on assessing whether there are influences of hydraulic fracturing on drinking water resources.

ANGA is prepared to expand on or further explain these comments, should EPA so request. ANGA may submit further comments, as the study advances.