

## **Comments of America's Natural Gas Alliance**

### *Science Advisory Board's Draft Report on the Environmental Protection Agency's Draft Hydraulic Fracturing Study Plan*

America's Natural Gas Alliance (ANGA) appreciates this opportunity to comment on the Science Advisory Board's (SAB) draft report of its review of EPA's Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources dated April 28, 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 about 40 percent of the total annual U.S. natural gas supply.

As acknowledged by EPA's March 2010 proposed drinking water study scoping materials, 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. The proper development of our shale gas resources offers the potential to generate power and otherwise provide energy in a way that both significantly reduces air emissions, including greenhouse gas emissions, and promotes America's energy independence and national security.

Hydraulic fracturing should play an increasingly important role in developing our natural gas supplies. Fracturing technology has been used safely at more than one million domestic wells. The states regulate various aspects of hydraulic fracturing activities as a means of sustaining that positive record. 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.

In that regard, ANGA submitted comments to EPA regarding EPA's March 2010 proposed drinking water study scoping materials, the June 2010 report on those materials prepared by the SAB, and the February 2011 draft hydraulic fracturing study plan. 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 help inform the review process.

ANGA supports the SAB's recommendations that EPA continue to narrow and focus its study on the impacts of hydraulic fracturing on drinking water resources. Based on its review of the SAB's draft report, ANGA offers these additional preliminary comments.

**Proposed Study Objective and Scope**

- In general, ANGA supports the SAB's recommendation that EPA continue to narrow and focus its study plan on any impacts of hydraulic fracturing to drinking water resources so that EPA can complete its study within its limited time and budget.
- 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 to avoid attributing focused research findings across all formations.
- SAB's recommendation 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 what the SAB characterizes as inter-basin transfers of flowback and produced water is inconsistent with the SAB's important overarching recommendation that EPA narrow and focus its review. The type of inter-basin transfer analysis mentioned by the SAB would add significant issues that EPA likely could not properly address within the available time and budget.
- ANGA questions the SAB's recommendation that EPA should broaden the definition of "drinking water resources." ANGA respectfully requests that the SAB reconsider its recommendation that EPA unilaterally broaden the definition of "drinking water resources." EPA is conducting its study pursuant to a specific Congressional request. That request incorporated current standards, not one that EPA might propose. Moreover, adopting such a new standard in this context would add unnecessary time-consuming and potentially costly issues to be addressed in a process that lacks both the necessary temporal and economic resources.
- ANGA supports SAB's recommendation that EPA limit the contaminant parameters on which it will focus. Such narrowing will increase the likelihood that EPA will produce a study result on time. ANGA urges EPA to include only parameters linked to determining whether hydraulic fracturing has any influence on public drinking water supplies.
- ANGA questions SAB's recommendation that EPA not focus on maximum contaminant level parameters in assessing possible impacts of fracturing activities to drinking water quality. Those standards exist and provide an accepted means of assessing the quality of drinking water supplies. Abandoning those long standing standards in such an important study could introduce uncertainty and raise unnecessary questions about the validity of any conclusions or recommendations EPA might advance as a result of its study.
- ANGA supports the SAB's recommendation that EPA "carefully consider the quality" of the data used in its analysis. ANGA renews its request that EPA look into and then disclose the publicly known positions that have been advocated by any of the individuals or entities that provide data, so that the general public will have the opportunity to objectively evaluate all information offered in the Study Plan.

### **Proposed Research**

- To the extent EPA is able to implement the suggestion using its current budget and schedule, ANGA supports 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 (as compared to ongoing withdrawals for industrial or cooling water purposes, for example), which should allow for ground and surface water flows to recover in flow and volume.
- SAB's recommendation that EPA consider developing a "vulnerability index" to determine those water supplies particularly susceptible to adverse impacts on water quality or quantity cannot be properly devised, developed and promulgated in the context of the study requested by Congress.
- ANGA supports, in concept, 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. However, ANGA questions whether the current study includes enough time or money to meaningfully address those issues.
- ANGA questions SAB's recommendation that well drilling and cementing practices be researched separately from the hydraulic fracturing process. Well construction activities are currently included under the well injection category. ANGA does not believe well construction activities, which are important in the fracturing process, should instead become a separate research focus rather than being integrated with EPA's overall analysis. ANGA supports the SAB's recommendation that EPA should 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. This approach aligns EPA's research tasks with the request from Congress.
- 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.
- ANGA questions the basis for SAB's statement 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," and that it "anticipates that the primary opportunity for human health exposure is likely to be through surface waters, and recommends that EPA's first order human health exposure assessment focus on surface water management of flowback and produced waters." The objective analysis requested by Congress should proceed before any such conclusions are released. For the same reason, ANGA submits that SAB's recommendation that handling

of flowback and produced water be provided “first priority for exposure assessments” is premature.

- ANGA questions the basis for 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. Nor is it clear that such an inquiry would fall within the Congressional request to EPA. Consequently, it would make little sense to focus limited time and resources on those questions.
- ANGA questions 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 would fall within the Congressional request to EPA. Consequently, it would make little sense to focus limited time and resources on those questions.
- ANGA suggests SAB’s recommendations that EPA use micro-seismic monitoring to develop fracture models, or 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 a number of times, EPA is taking on a significant study in an increasingly politically controversial area. Consequently, its work will be closely scrutinized and should include clear statements regarding the limitations of its analysis and conclusions.

### **Case Studies**

- ANGA questions SAB’s recommendation that EPA conduct at least one watershed-scale retrospective case study. The suggestion is inconsistent with the recognition of 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 statement 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 in any way relied upon it.
- ANGA suggests that EPA maintain as much objectivity as possible in its analysis. In that respect, EPA should guard against including in its study result the type of bias indicated by SAB’s statement that companies involved in the prospective case studies “will likely follow best management practices and take extra precautions,” therefore, those companies 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. ANGA’s members strive to act responsibly and in

environmentally prudent ways in their fracturing work. There is no basis to interject such negative bias into EPA's study. ANGA suggests EPA focus on building objective criteria into its study.

### **Environmental Justice Considerations**

- ANGA questions 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. Perhaps more important, the SAB draft appears to presume that environmental justice communities may somehow be prejudiced by fracturing activities. ANGA respectfully suggests there is no basis for that presumption, and it has no place in this study.

### **Follow-Up Studies**

- ANGA questions whether in the current study EPA has the time or budget resources to address the "cumulative consequences of carrying out multiple [hydraulic fracturing] operations in a single watershed or region" 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.

### **Participation**

- ANGA supports SAB's recommendation that EPA consider expanding participation on the research teams it will use to carry out this study to include researchers with experience in this area, "especially in well construction and fracturing operations." ANGA respectfully requests that this also includes consideration of representatives from industry and other stakeholder groups that have the requisite experience in well construction and fracturing.

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