UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 27 2012

OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable Andy Harris, M.D.
Chairman
Subcommittee on Energy and Environment
United States House of Representatives
Washington, DC 20515-6371

Dear Chairman Harris:

Thank you for your letter of June 7, 2012 to Administrator Lisa P. Jackson in which you raised questions regarding the U.S. Environmental Protection Agency's (EPA's) activities related to hydraulic fracturing, and particularly about *EPA's Plan to Study the Potential Effects of Hydraulic Fracturing on Drinking Water Resources*. I am pleased to respond on the Administrator's behalf.

I would like to emphasize that the EPA is committed to ensuring scientific integrity in our research, in accordance with the agency's Scientific Integrity Policy and as directed by Congress in their request to the EPA to conduct the hydraulic fracturing study. As directed by Congress, we are adhering to the following six principles in carrying out their request: (1) using the best available science; (2) incorporating independent sources of information; (3) following rigorous quality assurance procedures; (4) consulting with stakeholders; (5) conducting the research in a transparent manner; and (6) subjecting the research to a rigorous and independent peer review.

I also assure you that as a science-driven agency, we take seriously our obligation to meet the highest standards of scientific integrity and transparency. The EPA is committed to using the best possible science as a foundation for all of the agency's work, including how we are conducting our *Study of the Potential Effects of Hydraulic Fracturing on Drinking Water Resources*.

Again, thank you for your letter. The responses to your questions are provided as an enclosure to this letter. If you have any further questions, please contact me, or you staff may contact Pamela Janifer in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-6969.

Sincerely,

Arvin Ganesan
Associate Administrator

Enclosure

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cc: Rep. Ralph Hall
Chairman
Committee on Science, Space
and Technology

Rep. Eddie Bernice Johnson
Ranking Member
Committee on Science, Space
and Technology

Rep. Brad Miller
Ranking Member
Subcommittee on Energy and
Environment

Enclosure

The Honorable Andy Harris
U.S. House of Representatives
Committee on Science, Space, and Technology

EPA Responses to Questions – June 7, 2012 Letter

1. Given the guidance in the Peer Review handbook that a peer review record should be developed as soon as the decision is made, how does the lack of inclusion of such a record in the Agency's Science Inventory for the Study comply with EPA's Peer Review handbook, EPA's scientific integrity memo, and the OMB bulletin?

   Response: The EPA has and will continue to follow the peer review planning requirements described in the Office of Management and Budget's *Information Quality Bulletin for Peer Review*. We are in the process of fully determining how the HISA-level peer review will be conducted. Once the peer review plan has been finalized, the peer review record for the study will be included on the Science Inventory website.

2. Why has there been no public acknowledgement of the HISA designation? What specific additional process requirements are HISA's subject to during the life of a study, and what specific steps has EPA taken to carry out these requirements and ensure the Study follows proper HISA protocols? Please provide documentation that outlines the additional processes and requirements.

   Response: The EPA has determined that the report is a Highly Influential Scientific Assessment. The only process requirements for HISAs pertain to the peer review process. Section III of the Office of Management and Budget's *Information Quality Bulletin for Peer Review* outlines additional peer review process requirements, which the EPA has committed to following.[1] These requirements include selecting reviewers based on expertise, skills and experience; barring participation by scientists with conflicts; avoiding repeated use of the same reviewers; and other details relating to peer review.

3. Please describe EPA's effort to comply with the direction in the Consolidated Appropriations Act of 2012 that requires interim study results be subjected to Interagency Review and public comment, specifically as described in Section 2.2 of the Draft Hydraulic Fracturing Study Plan released February 7, 2011.

   Response: The Consolidated Appropriations Act of 2012 does not require interim study results be subjected to Interagency Review and public comment. As stated in Section 2.2 of the draft study plan, "EPA will continue to engage stakeholders as results from the study become available."[2]

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[1] www.whitehouse.gov/omb/memoranda/fy2005/m05-03.pdf
[2] http://www.epa.gov/hfstudy/HFStudyPlanDraft_SAB_020711.pdf

4. a. Please describe EPA's efforts to collaborate with industry as the study work progresses. Does this include anything other than working with the five retrospective site operators and conducting a quarterly webinar with industry stakeholders?

Response: In addition to working with industry at the five retrospective study sites, the EPA is working with industry, states, and others on several additional research projects, including analysis of data from nine hydraulic fracturing service companies, analysis of data from nine oil and gas companies, wastewater sampling, and two prospective case studies.

b. Please provide a list of all contacts and meetings held with stakeholders, as well as a description of the substance of the meeting relating to the finalized study plan.

Response: The EPA will provide a full response as soon as it is completed.

5. How has EPA responded to the SAB recommendation that the Agency develop a balanced, collaborative advisory group of stakeholders that could be engaged throughout the research process?

Response: The agency is currently examining possible steps to expand collaboration during the remaining stages of the study.

6. Does EPA's definition [of collaboration] go beyond interaction with the operators at the seven total retrospective and prospective case study sites? Do you believe the Agency has undertaken sufficient collaboration to ensure a scientifically sound result?

Response: Yes, the EPA's collaboration does go beyond interaction with the operators at the case study sites. The EPA is working with state and local government agencies, operators and service companies, and others on the case studies. The EPA is also working with industry, states, and others on several additional research projects, such as analysis of data from nine hydraulic fracturing service companies and analysis of data from nine oil and gas companies.

The EPA believes it is undertaking sufficient collaboration to ensure scientifically sound results, and we will continue to seek opportunities for collaboration in a manner consistent with ensuring scientific integrity.

7. It is my understanding that industry stakeholders requested an opportunity to collaborate and collect split samples with EPA as early as December 2011, a request that EPA immediately rejected. Why would this request be rejected, in light of the agency's history of collaborating with industry, and what is the status of cooperation regarding split sampling?

Response: The EPA has facilitated duplicate sampling for industry at all five case study locations for both rounds of sampling completed to date, and plans to offer duplicate sampling opportunities throughout the case studies. In very infrequent cases where industry was not able to take duplicate samples, the homeowners themselves denied companies access. The EPA makes a concerted effort to cooperate with industry.

8. Does EPA consider this outcome [risk identification]—after four years and millions of dollars—to be consistent with the letter and spirit of the request made by Congress for EPA to study this issue?

Response: The EPA considers its work on the *Study of Potential Impacts of Hydraulic Fracturing on Drinking Water Resources* to be consistent with the letter and spirit of Congress' request. The study is designed and implemented to answer the request from Congress.

9. How will EPA's final report realize even the limited use—mere risk identification—that the Agency intends it to serve?

Response: The EPA study will provide important information on the potential impacts of hydraulic fracturing on drinking water resources, and if impacts are found, on the factors that may be responsible. The results of the study will inform the public and provide policymakers at all levels with sound scientific knowledge that can be used in decision making processes.

10. How will EPA ensure that hydraulic fracturing as conducted in 2012 or 2014 (the period of the reports' release) shares any potential risks identified in EPA's final report for hydraulic fracturing as conducted in 2009 or earlier (the period studied)?

Response: The EPA's research will reflect the most up-to-date information available to us. The EPA ensures the timeliness of its information by performing reviews of the current published literature and data, staying in communication with a broad range of stakeholders, and conducting prospective case studies, which are expected to reflect state-of-the-art processes.

11. How are these environmental justice and discharges to publicly owned water treatment works (POTWs)] related to the original Appropriations report language to EPA? Is this a good use of EPA's limited resources?

Response: Produced water and flow back from hydraulic fracturing operations are treated by POTWs and discharged into surface waters. The receiving waters containing treated waters are subsequently used as drinking water. Therefore, treatment of produced water and flow back from hydraulic fracturing may impact drinking water resources and is well within the scope of the request.

Federal agencies conduct work in a manner consistent with Executive Order 12898, which directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. Given the requirements of E.O. 12898, the EPA's study efforts include a consideration of environmental justice concerns.

In conducting these studies, the EPA is effectively using its resources to strengthen the scientific foundation for decisions to ensure the safe development of oil and gas resources and the protection of drinking water sources.

12. Will EPA continue to expand the scope between now and the final report in 2014?

Response: The EPA has not expanded the scope of the *Study of Potential Impacts of Hydraulic Fracturing on Drinking Water Resources* beyond the original request from Congress, and will not expand the scope of the study between now and the Final Report.

13. To what extent has EPA worked with each of the states in which EPA is conducting retrospective sampling?

Response: The EPA has worked with each of the states in conducting retrospective sampling. This has included meetings with the appropriate state representatives to provide information about our study approach, the locations being sampled, the types of analyses being conducted, and the timing of our sampling events. We also coordinated with the states before and during any sampling activities.

14. Please provide a list of contacts and meetings held with state officials for each of the sites and background information provided to EPA by the states for each site.

Washington County, PA Primary contacts: Jack Crook and Alan Eichler, Pennsylvania Department of Environmental Protection (PADEP). In June 2011, the EPA met with PADEP representatives to provide general background on the overall hydraulic fracturing study plan, and to describe and receive input on the case study in Washington County. Prior to the first sampling trip of July 2011, PADEP representatives were contacted and informed about the sampling plans. After the July 2011 trip, PADEP representatives were given a general debriefing about the first sampling event. Prior to the second sampling event in March 2012, PA DEP was notified about times and sampling locations and they were asked to provide any input. The state provided background information to the EPA regarding hydraulic fracturing activities in the case study location, including general information about fracturing fluids.

Bradford and Susquehanna Counties, PA Primary contacts: Scott Perry and Stephen Brokenshire from PA DEP. Similar communications as above were held with PA DEP to inform them of the EPA's study approach, the locations being sampled, the types of analyses being conducted, and the timing of sampling events. The EPA was accompanied during the first round of sampling (Oct/Nov 2011) by PADEP staff who collected split samples at selected locations. PADEP was notified of the second sampling round that took place in April/May 2012. Information from the state on water quality in the case study area was obtained from the Pennsylvania Ground Water Information System (PaGWIS), which is a data base that contains information on wells, springs and ground water quality throughout Pennsylvania.

Raton Basin, CO Primary contact: Peter Gintautas and Thom Kerr, Colorado Oil and Gas Conservation Commission (COGCC). In July 2011, the EPA met with staff from COGCC to provide background on the overall hydraulic fracturing study plan and specifics about the case study in the Raton Basin. Prior to the sampling events in October 2011 and May 2012, COGCC was informed about sampling activities. Information was provided to the EPA by COGCC relating to ground water quality at specific sites included in the retrospective study. COGCC also provided selected results from a split sampling event along with information on state health screening levels.

Dunn County, ND Primary contacts: Lynn Helms, North Dakota Industrial Commission (NDIC); and Kris Roberts, North Dakota Department of Health (NDDH). In November 2011, the EPA met with the NDIC Department of Mineral Resources, Oil and Gas Division Director to discuss the

potential case study and collect background information on the site. The EPA met with the NDDH Division of Water Quality representative in April 2011 to finalize sampling activities. Prior to the first sampling trip in July 2011, the EPA informed the state of sampling plans. In August 2011, the EPA and NDDH had a debriefing meeting for the July 2011 sampling trip and discussed plans for the October 2011 sampling trip. In September 2011, the EPA provided an updated list for the October 2011 sampling event. The EPA invited NDDH to a meeting to discuss data collected at the Killdeer Site in April 2012. The state provided information on background water quality, local geology, hydraulic fracturing activities, and water use in the Killdeer aquifer. In addition, the state provided information on well failure, monitoring data prior to the EPA sampling, and data collected on surface remediation.

Wise Co., TX Primary contacts: Peter Pope and William Miertschin, Texas Railroad Commission (TRRC); Keith Sheedy, Texas Commission on Environmental Quality (TCEQ). In March 2011, the EPA met with TRRC and TCEQ representatives to discuss potential case study locations and collect background information. The EPA again met or communicated with the TRRC and TCEQ on several occasions: July 2011 to outline the selected locations for the study; August 2011 to discuss logistics for the September 2011 sampling trip; November 2011 to discuss findings of the September 2011 sampling; January 2012 to discuss the sampling plans for the March 2012 sampling; April 2012 to discuss results of the March 2012 sampling; June 6, 2012 to coordinate June 2012 sampling trip; June 8, to inform the TRRC and TCEQ that the June 2012 sampling trip was postponed; and June 11, 2012 in a call from TRCC to reschedule the sampling event. The state provided general information about hydraulic fracturing activities in Wise Co. and contact information for one of the operators in the area.

15. How does EPA intend to improve coordination with the states for the prospective site studies?

Response: The EPA will be working closely and proactively with the states where prospective case studies will be conducted, just as the Agency is doing with the retrospective case studies. The EPA values its relationship with state partners and recognizes the importance of cooperation.

16. There are concerns, particularly in light of Pavillion, that EPA is not adhering to best practices in the field. What steps is EPA taking to ensure that the EPA's field sampling is being conducted properly and without contaminating groundwater samples?

Response: The EPA utilizes sound scientific methods when collecting field samples. All field sampling is conducted in accordance with methods identified in an approved Quality Assurance Project Plan (QAPP). Technical audits for field and laboratory data collection efforts are conducted by agency technical and quality assurance experts.

17. Is an independent third party observing and recording EPA's field activity for future assessment by peer reviewers and other stakeholders?

Response: The parties that have observed and been provided with an opportunity to record the EPA's field activities include representatives from industry and state agencies. Industry and state agency representatives have been present at and have taken duplicate samples at each round of sampling as part of all five retrospective case studies. We expect that the prospective case studies will provide similar opportunities for state and industry partners to be present during field activities and to take samples, subject to landowner and operator approval.

18. Will EPA pre-disseminate the draft hydraulic fracturing study in accordance with OMB guidelines and at an appropriate time such that additional data and testing aren't required?

Response: The EPA will meet all OMB guidelines regarding pre-dissemination prior to peer review. The result of the peer review process is expected to provide guidance on any additional testing that may be required.

19. Please describe what Dr. Hauchman meant by "comprehensive look."

Response: Dr. Hauchman was referring to the fact that the EPA is engaged in multiple activities related to hydraulic fracturing, not that the EPA is conducting a formal cross-statutory review. The EPA's role in hydraulic fracturing is defined by various authorities listed on the EPA's web page: http://epa.gov/hydraulicfracturing.

20. Why is the Office of Research and Development (ORD) conducting this "comprehensive look" of statutes for expanded EPA regulations on hydraulic fracturing?

Response: See response to Question #19.

21. Under what authority is ORD conducting this "comprehensive look"?

Response: See response to Question #19.

22. What expertise does ORD have to conduct such a "comprehensive look"?

Response: See response to Question #19.

23. Who is involved in this "comprehensive look" of all these statutes? Please provide the name, title, and qualifications of staff involved in this process.

Response: See response to Question #19.

24. Please provide all records from the staff identified in question 21 associated with the "comprehensive look" sited by Dr. Hauchman.

Response: See response to Question #19.

25. Please provide a list of all contacts and meetings held with stakeholders, as well as a description of the substance of those meetings, relating to the "comprehensive look at all the statutes" to determine "where there are some holes" to allow further regulation.

Response: See response to Question #19.

26. What is Dr. Hauchman's formal role in overseeing the hydraulic fracturing study?

Response: Dr. Hauchman's office is responsible for the overall coordination of the study.

27. What is his formal role in conducting a statutory review to find "where there are some holes" for EPA regulation"?

Response: See response to Question #19.

28. Is the practice of the same EPA employee overseeing both the risk assessment of hydraulic fracturing as well as the pursuit of expanded regulatory authority consistent with the Agency's Scientific Integrity Policy[3], which "[R]ecognizes that while Agency risk assessments are intended to address the needs of risk management, quantitative conclusions should not be influenced by possible risk management implications of the results," or National Academy of Sciences' recommendations dating back to the 1983 Red Book about the need to separate risk assessment and risk management?

Response: See response to Question #19.

[3] http://www.epa.gov/osa/pdfs/epa_scientific_integrity_policy_20120115.pdf