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ONE HUNDRED THIRTEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6115
Majority (202) 225-2927
Minority (202) 225-3641

March 10, 2014

Dr. Julio Friedmann
Deputy Assistant Secretary for Clean Coal
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Dr. Friedmann:

Thank you for appearing before the Subcommittee on Oversight and Investigations on Tuesday, February 11, 2014, to testify at the hearing entitled "Department of Energy Oversight: Status of Clean Coal Programs."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

Also attached are Member requests made during the hearing. The format of your responses to these requests should follow the same format as your responses to the additional questions for the record.

To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Monday, March 24, 2014. Your responses should be mailed to Brittany Havens, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515 and e-mailed in Word format to brittany.havens@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,


Tim Murphy

Chairman
Subcommittee on Oversight and Investigations

cc: Diana DeGette, Ranking Member, Subcommittee on Oversight and Investigations

Attachments

Attachment 1—Additional Questions for the Record

The Honorable Tim Murphy

1. At a September 20, 2012 hearing before the Energy and Commerce Committee's Energy and Power Subcommittee, a representative for Alstom, a maker of Carbon Capture and Storage (CCS) related technology, testified that "it is unaware that any supplier of [CCS technology] is ready or able to offer commercial guarantees for ...full scale systems of carbon capture." The representative testified that "the final stage to reach commercial status is to perform a demonstration at full commercial scale.... It is critical to be at commercial scale to define the risk of offering the technology. This cannot be defined until the technology can be shown to work at full scale. This is the first opportunity that we have to work with the exact equipment in the exact operating conditions that will become the subject of contractual conditions when the technology is declared commercial and is offered under standard commercial terms including performance and other contractual guarantees." In your response on February 11, 2014 to a question by Rep. Griffith about these commercial guarantees, you stated that, since the Alstom testimony, "a number of those companies have actually, do now offer performance guarantees." Are the performance guarantees you reference in your testimony the same as the manufacturer's commercial guarantees described in the September 2012 testimony?
 - a. If so, have these guaranteed technologies been demonstrated in CCS systems in operating electric generating units at full commercial scale, sufficient to define the risks in the exact operating conditions that will become the subject of contractual conditions when the equipment is offered under standard commercial terms?
 - b. Identify the specific technologies and specific companies offering performance guarantees that support your testimony, and whether the manufacturers will warrant these technologies for use in utility-scale commercial service on coal-based electric power plants.
2. In response to a question to confirm that CCS has not being implemented commercially at full scale on a functioning electric power plant, you disagreed and provided the example of the Beulah, North Dakota Gasification Facility, claiming this industrial facility was a power plant because it supplied natural gas that may be used in power plants.
 - a. Does the Beulah facility represent successful demonstration of CCS systems on a commercial, coal-based electric generating unit that is supplying electric power to the electric grid?
 - b. What is the history of DOE's loan guarantee in support of the plant? What was the taxpayer liability, in 2014 dollars, after the partners defaulted on the DOE loan?
3. In your testimony, you mentioned an \$8 billion loan guarantee solicitation, which was released on December 13, 2013 and covers a broad range of advanced fossil energy projects.
 - a. The loan guarantees under this new solicitation are authorized by Title XVII of the Energy Policy Act of 2005 and will be administered by DOE's Loan Programs Office, correct?

- b. Advanced fossil energy projects include technologies such as carbon capture, correct? What kinds of projects do you plan to support under this program?
 - c. How will they be similar to and/or differ from the existing major demonstration projects in CCS?
4. DOE indicated that it expected the initial applications under this new loan guarantee program by the end of February 2014. Did DOE receive any applications by February 28, 2014 that relate to CCS technologies for coal-based power plants?
- a. If so, describe how many and the types of projects.
 - b. What timeframe do you anticipate for awarding these loan guarantees and for the full implementation of the underlying advanced fossil energy projects?
5. You suggested that the Environmental Protection Agency's requirement of CCS use by the power sector would facilitate state utility commission authorization of cost recovery for CCS through consumer rates.
- a. When do you expect state utility commissions to authorize consumer rate-based cost recovery for non-government-subsidized CCS meeting EPA standards?
 - b. Explain how state utility commissions could authorize such consumer rate-based cost recovery for non-subsidized-CCS, given the prevalence of cheaper generation source alternatives. Upon what rationale would a state utility commission make such an authorization given competing availability of natural gas and nuclear fueled power generation?
6. DOE's Energy Information Administration (EIA) recently reported in its 2014 Annual Energy Outlook that, after the addition of current demonstration projects, there will be no increase in coal-based electricity generation in the United States for up to 30 years.
- a. If market and regulatory factors indicate no new coal power capacity, please explain where DOE will find the facilities to demonstrate its CCS technologies for coal-based power at utility scale.
 - b. What are you doing, if anything, to adjust your program goal and development and demonstration plans to reflect these EIA projections?
7. You stated that you hoped to see an increase in large scale deployment of CCS so it would manage 12-20% of U.S. emissions by 2050.
- a. To attain such widespread deployment, how many power plants does DOE assume would implement CCS in the ensuing time period: how many over the next five years and in each five year period between now and 2050?

Attachment 2—Member Requests for the Record

During the hearing, Members asked you to provide additional information for the record, and you indicated that you would provide that information. For your convenience, descriptions of the requested information are provided below.

The Honorable Tim Murphy

1. Please provide information to the Committee on the breakdown of cost of electricity relative to the price of carbon capture at a coal gasification facility or a pulverized coal plant, using first generation technologies, assuming both a high fraction of capture and a low fraction of capture. Additionally, please provide any information on the cost of electricity-per-megawatt generation and what that would cost the average family.
2. Please explain and compare what the costs are for new coal-fired plants and retrofitting old coal-fired plants. In addition, please explain how that translates into the cost of electricity for homeowners and businesses.

The Honorable Cory Gardner

1. The information that we have says that we spent around \$3 billion, of the \$7.6 billion, towards the second generation technologies. During the hearing you said that you didn't believe that figure was accurate. Please provide us with the correct amount spent on second generation technologies.
2. Please provide the Committee with any cost estimates of the price point of CO2 capture per ton, or percentage of capture, at which the cost will be low enough to put a system on a level playing field economically with traditional coal-fueled electrical power production or comparisons that you have made with respect to current costs and what costs are projected to be with future transformational technology.

The Honorable Bill Johnson

1. Over the past several years, the President's budget request for coal R&D funding has steadily declined from a request in FY 2010 for \$404 million to the most recent request in FY 2014 for \$277 million. Congress did not agree with these levels of funding and recently passed an omnibus appropriations bill increasing the funding by more than \$100 million. Please explain how the Department of Energy plans to spend the additional coal Research and Development funding appropriated by Congress.

The Honorable Billy Long

1. Please provide an estimated range of how many billions of tons per year of carbon dioxide will need to be stored if the United States is to sequester a substantial portion of coal-based carbon dioxide.