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January 30, 2012

Office of Electricity Delivery and Energy Reliability, OE-20
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, D.C. 20585

Sent by email to: Congestionstudy2012@hq.doe.gov
David.Meyer@hq.doe.gov

RE: Preparation of the 2012 Congestion Study

The American Clean Skies Foundation (ACSF) is a non-profit organization founded to advance America's energy security and promote a cleaner environment through the expanded use of natural gas, renewable energy and energy efficiency. ACSF appreciates the opportunity to submit these comments, which underscore the importance of taking into account the growing role of natural gas-fired electric generation in connection with transmission planning.¹

I. Executive summary:

This critical role of natural gas in the electric power sector has often been overlooked in transmission planning. Yet, given the growing economic attraction of gas-fired generation, and the ability of gas-fired units to be located close to load, natural gas can provide a key means of reducing transmission constraints, thereby avoiding the need for controversial and expensive long-haul transmission. Accordingly, it is imperative that DOE not overlook this critical electric generating resource as it undertakes its transmission congestion study.

Low natural gas prices have resulted in dramatic changes to our nation's electric system over the last several years, with natural gas being increasingly relied on for power generation. As President Obama said in his recent State of the Union Address:

¹ ACSF submits these comments in response to the "request for written comments" by the Department of Energy (DOE) that was published in the Federal Register on November 10, 2011 (76 FR 70122).

“We have a supply of natural gas that can last America nearly one hundred years, and my Administration will take every possible action to safely develop this energy...”

The development of natural gas will create jobs and power trucks and factories that are cleaner and cheaper, proving that we don’t have to choose between our environment and our economy...”

Given the low emissions profile and relatively small footprint of natural gas electric generating units, these units are uniquely well-suited for siting closer to sources of electricity demand. This reduces the need for new, long-haul, extra-high voltage (EHV) transmission and provides a means of reducing transmission congestion. Hence, DOE must take into account non-transmission solutions, such as natural gas generation, when evaluating the needs of our nation’s grid. Natural gas can save U.S. ratepayers money by relieving congestion, maintaining voltage, and avoiding the costly and controversial construction of long-haul transmission. With its ability to ramp up and down efficiently, natural gas-fired power also plays an important role in the grid integration of intermittent renewable energy such as wind and solar, which do not generate power when the wind isn’t blowing and the sun isn’t shining.

Beyond that, DOE must recognize that gas-fired power will provide an expanding slice of base-load power, and is likely to increasingly replace higher emitting, ever-more-expensive coal-fired power. These facts and trends have significant implications for transmission planning and congestion.

ACSF had previously highlighted the increasing role of natural gas in our nation’s electric generating fleet in its comments on DOE’s previous congestion study.² The ability of natural gas to provide a long-term, lower cost solution to our nation’s energy and transmission needs has become even more pronounced since then, and DOE should fully account for this in its next study.

II. Discussion: Key facts and information sources

DOE’s Federal Register notice to which ACSF hereby responds specifically “seeks comments on what publicly-available data and information should be considered” in DOE’s next transmission congestion study.³ Among other widely available information regarding the

² See ACSF, *Comments to 2009 National Electric Transmission Congestion Study* (June 29, 2010), available at http://congestion09.anl.gov/documents/09comments/ACSF_Comments_on_Transmission_Study.pdf.

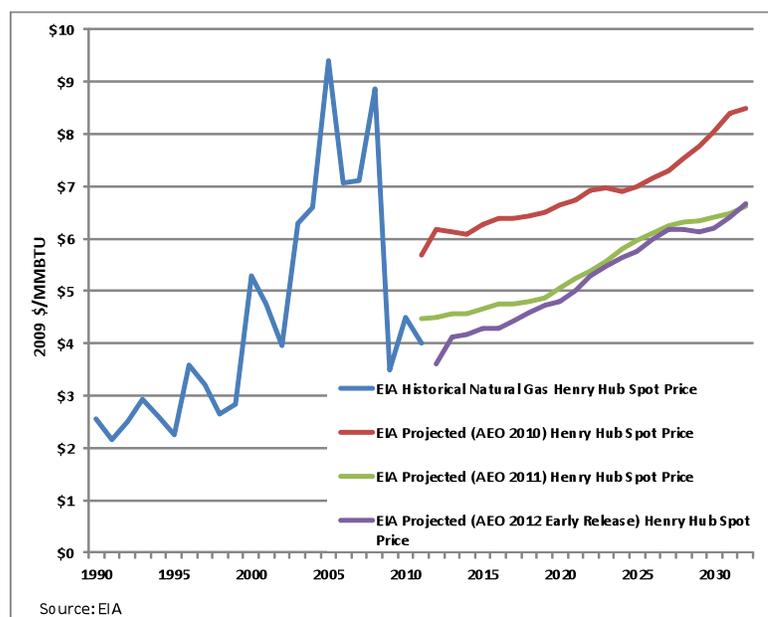
³ See 76 FR 70122.

increasing use of gas in our nation's power sector, DOE should consider the following sources and types of information:

A. Natural gas prices are widely predicted to remain low and stable for the foreseeable future.

Information on the new paradigm of low and stable natural gas prices is dramatic and widespread. For instance, data from the U.S. Energy Information Administration (EIA) shows that natural gas prices have dropped dramatically, and are expected to remain low and stable (not exceeding 2008 levels through 2035). See e.g., Figure 1, below, based on EIA data and forecasts.⁴

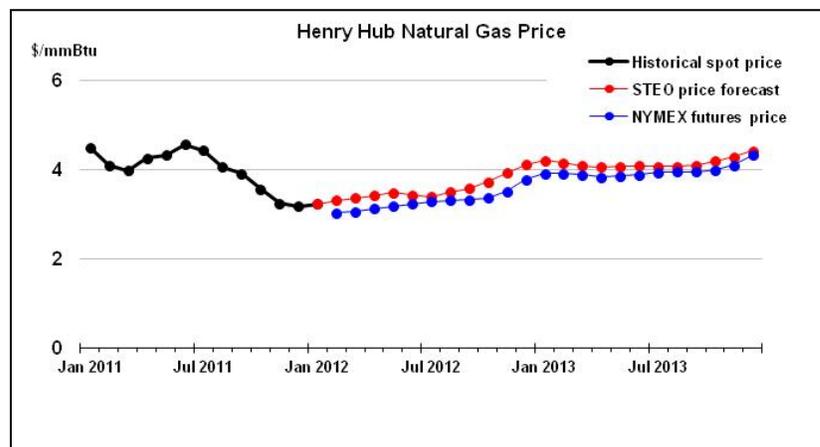
Figure 1



Additionally, actual market data, by way of “futures” prices for natural gas, show the expectation that natural gas prices are expected to remain low and stable. See e.g., Figure 2, below, from EIA's January 10, 2012, Short-Term Energy Outlook.⁵

⁴ The EIA's Annual Energy Outlook datasets are available at <http://www.eia.gov/forecasts/aeo/er/>.

⁵ This Short-Term Energy Outlook is available at http://www.eia.gov/forecasts/steo/pdf/steo_full.pdf.

Figure 2

Together with the Bipartisan Policy Center, ACSF recently completed a widely-reported study on the implications of new natural gas supply projections for gas use by power plants and other industrial users. The study was adopted unanimously by a task force that represented natural gas producers and distributors, consumer groups and large industrial users, as well as independent experts, state regulatory commissions and environmental groups. The study found that abundant natural gas supplies, coupled with increased storage and import capability, as well as the ability to use long-term contracts and hedging arrangements, provide for a stable natural gas price horizon and the opportunity to expand its use in the United States.⁶ In short, natural gas provides a low-emitting, domestic source of fuel that can power a large share of our nation's electricity for approximately 100 years.⁷

B. Newly abundant, clean-burning domestic natural gas will play an increasing role in our nation's power generation.

Natural gas is widely predicted to be increasingly used to generate electricity.⁸ Part of the reason is that low natural gas prices have increased the dispatch of existing gas-fueled units, and spurred plans for new natural gas power plants because of the favorable economics

⁶ See the American Clean Skies Foundation and Bipartisan Policy Center, *Task Force on Ensuring Stable Natural Gas Markets* (2011), executive summary at pp. 7-13, available at <http://www.cleanskies.org/>.

⁷ See e.g., American Gas Association, *Examining U.S. Natural Gas Supply 2011* (January 2011), p. 2, available at <http://www.aga.org/Kc/analyses-and-statistics/studies/supply/Documents/EA1101ExaminingUSSupply.PDF>.

⁸ See e.g., Energy Information Administration, *AEO2012 Early Release Overview* (2012), p. 10, available at [http://www.eia.gov/forecasts/aeo/er/pdf/0383er\(2012\).pdf](http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2012).pdf).

compared to increasingly expensive coal. Additionally, numerous modern, low-emitting, high-efficiency natural gas combined cycle plants are available today, with significant unused capacity, to replace existing coal-fired generation.⁹

Furthermore, natural gas is widely predicted to be the “new generation” of choice.¹⁰ It should also be noted that the prior DOE transmission congestion study found that natural gas is widely available to power plants, and that natural gas lines can “deliver fuel to power plants in most locations in the lower 48 states.”¹¹

In addition to its affordability and energy security benefits, the low emissions profile of natural gas helps to make it the generation fuel of choice. A number of U.S. EPA regulations have been recently promulgated, or will be promulgated, that seek to reduce emissions and environmental impacts of high-polluting coal-fired power plants. In doing this, these EPA regulations capture the “externality” of pollution that was not previously reflected in the price for dirtier power sources. Coal-fired power plants will require expensive control technologies, and incur higher operating costs in order to comply with the new regulations. ACSF has provided comments to the U.S. EPA on a number of these power plant rules, including the utility “MACT” standard that targets particularly toxic emissions from coal-fired power plants.¹²

⁹ See e.g., Congressional Research Service, *Displacing Coal with Generation from Existing Natural Gas-Fired Power Plants* (2010), available at http://assets.opencrs.com/rpts/R41027_20100119.pdf. See also, Massachusetts Institute of Technology Energy Initiative, *The Future of Natural Gas* (June 2011) at page 2, a report for which funding was contributed, in part, by ACSF and is available at <http://www.cleanskies.org/>; Deutsche Bank Group, *Natural Gas and Renewables: A Secure Low Carbon Future Energy Plan for the United States* (November, 2010), available at http://www.dbcca.com/dbcca/EN/_media/NaturalGasAndRenewables.pdf.

¹⁰ John W. Rowe, Chairman CEO of Exelon Corp., *Energy Policy: Above All, Do No Harm* (March 8, 2011)(remarks as prepared for speech at the American Enterprise Institute, Washington, DC).

¹¹ DOE, *National Electric Transmission Congestion Study* (2009), p. 24, available at http://congestion09.anl.gov/documents/docs/Congestion_Study_2009.pdf.

¹² For an overview of the impact of U.S. power sector regulations and the implications for increased natural gas use, see the ACSF white paper *Growing the Market for Clean Power: The EPA’s New Power Plant Regulations and What They Mean for Utilities and Public Health* (December 2010), available at <http://www.cleanskies.org>. See also, Joel N. Swisher, *The Business Case for Integrating Clean Energy Resources to Replace Coal* (June 2011), also available at www.cleanskies.org. Other ACSF comments on individual U.S. EPA rules impacting the power sector can also be found on this ACSF web site.

Finally, the switch from higher-emitting generating coal-fired power to natural gas will only further accelerate as the price of coal is experiencing upward pressure just as natural gas prices are dramatically lowering.¹³

Renewable energy also provides opportunities to reduce power sector emissions. However, intermittent sources of renewable energy (such as wind and solar power) require back-up generation to balance the loads they serve (e.g., for times when the wind stops blowing or the sun stops shining). If this load balancing is provided by coal, rather than gas-fired power, renewables may actually increase pollution.¹⁴ That is why it is important for renewables to be matched with appropriate, “quick start” clean generation which does not off-set the environmental advantages that renewables provide. Natural gas units have ramp up rates of about 6 megawatts per minute, and can reach 100% load in 30 minutes or less, while coal units can take more than 9 hours to start up or shut down.¹⁵ An ACSF report, among others, notes that highly efficient natural gas is well suited to provide this load balancing.¹⁶

Finally, an often overlooked fact is that natural gas is a preferred fuel type for distributed generation, including combined heat and power. DOE’s prior congestion study noted distributed generation as a key alternative to building new transmission; however, the study failed to clearly recognize natural gas as a key distributed generation resource. DOE’s next congestion study should not make this same mistake and should fully consider the ability of natural gas to provide non-transmission solutions to congestion.

III. Conclusion

Lower and stable natural gas prices have been a “game changer,” bringing about transformative change to the electric power sector. The existing fleet of modern, low-emitting, high-efficiency natural gas generating units is expected to be increasingly relied on to produce power. Natural gas is widely viewed as the preferred fuel for newly built power plants. Furthermore, due to its operational flexibility, natural gas generation provides a key role in

¹³ In the EIA’s 2011 AEO, it was noted that between 2000 and 2009, coal prices increased 6% a year. AEO 2011 is available at [http://www.eia.gov/forecasts/archive/aeo11/pdf/0383\(2011\).pdf](http://www.eia.gov/forecasts/archive/aeo11/pdf/0383(2011).pdf).

¹⁴ See BenteK Energy LLC, *How Less Became More: Wind, Power and Unintended Consequences in the Colorado Energy Market* (April 16, 2010), p. 76.

¹⁵ See INGAA Foundation, submitted by ICF (2011). *Firming Renewable Electric Power Generators: Opportunities and Challenges for Natural Gas Pipelines*, p. A2-31, available at <http://www.ingaa.org/File.aspx?id=12761>.

¹⁶ See Joel N. Swisher, *The Business Case for Integrating Clean Energy Resources to Replace Coal* (June 2011), *supra*.

integrating renewable resources and stabilizing transmission by mitigating contingency events such as loss of units or voltage violations.

For these and other reasons, in its upcoming transmission report, DOE should highlight the role of natural gas in our nation's electric generating fleet and address how to bring additional natural gas onto the grid as it considers means to reduce transmission congestion.

Sincerely,

A handwritten signature in blue ink that reads "Gregory C. Staple". The signature is written in a cursive, flowing style.

Gregory C. Staple
Chief Executive Officer