From:	McVaney, Jim
To:	LNGStudy
Cc:	[redacted]
Subject:	Comments on DOE LNG Report by Rentech Inc
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Attachments:	Rentech Comments on DOE LNG Report0001.pdf

Please find attached our comments regarding the NERA LNG Export Study.

Thank you,

Jim

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Submitted to

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Regarding

2012 LNG EXPORT STUDY: Request for Comments

By

RENTECH INC.

January 24, 2013

I. Introduction

In accordance with the U.S. Department of Energy, Office of Fossil Energy's request for public comments in response to the NERA Economic Consulting ("NERA") Report *Macroeconomic Impacts of Increased LNG Exports from the United States,* Rentech Inc ("Rentech") is pleased to provide these comments.

II. Summary

As a company dedicated to the value-added production of agricultural nutrients, specialty chemicals and clean, high-performing fuels from natural gas, we caution the Department to resist adopting an approach to export of natural gas that will limit the ability of companies like ours, and the broader U.S. manufacturing sector, from leveraging our domestic energy supply advantage to continue to improve our international competitiveness.

Rentech does not accept the study's findings that the lose of individual and business income associated with higher prices for natural gas that will inevitably come from exports of LNG will be offset by gains elsewhere in the economy. This assessment seems to trade one value-added industry, LNG processing and transport, for a multitude of others including domestic fertilizer, chemical and fuels production. Furthermore, it undervalues current growth in trade-exposed, natural gas dependent industries in the U.S. Consequently, we highlight the following points:

- Affordable and accessible supplies of domestic natural gas are helping spur a resurgence in U.S. manufacturing
- In addition to jobs tied to production, jobs associated with value-added processing of domestic natural gas such as chemicals, fertilizers, fuels, aluminum and steel are high paying and often highly skilled, as well as of strategic national importance

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- Domestic natural gas is creating opportunities for both new and proven technologies to gain a foothold in the U.S. and expand our industrial base
- Processing of U.S. gas into higher-value products for domestic consumption or export provides for a much greater "value multiplier" than does export via LNG
- Substantially expanding U.S. natural gas exports would open the domestic market to a global trading regime similar to crude oil, increasing volatility and opportunities for manipulation by foreign interests
- Global energy trading for oil and natural gas are not covered under international trade agreements, prices are often not set by free markets and, consequently, the U.S. should move cautiously on policy decisions that may compromise national economic interests

III. Rentech Background and Comments

Rentech Inc is a technology development company with processes to convert natural gas and biomass into fuels and chemicals, and is a chemical manufacturer using natural gas as a feedstock for ammonia based fertilizer production. Rentech Inc is the majority owner of Rentech Nitrogen Partners L.P. (RNP), a partnership operating facilities in Illinois and Texas that produce ammonia fertilizer products at separate stages of the value chain and for different markets. The plant in East Dubuque, IL, produces ammonia, the simplest form of nitrogen fertilizer and the feedstock for other forms of nitrogen fertilizer. Nitrogen is considered the most important primary nutrient because it is essential to the formation of protein, which makes up the tissues present in most living things. The advent of production of nitrogen fertilizer is considered by many one of the most important inventions of the 20th Century and essential to feeding the world's growing population, so much so that its inventors were rewarded with Nobel Prizes.

Rentech Inc acquired the East Dubuque facility in 2006, an extremely difficult time for the U.S. fertilizer industry. During the period from 1999 to 2006 nearly half of the domestic nitrogen fertilizer industry had shut down due to falling prices for ammonia and skyrocketing costs for natural gas. Strong global crop demand and moderation in natural gas prices has helped the industry to stabilize and begin to recover, and our plant to regain its competitive footing versus imports.

The primary output of our second facility, located in Pasadena, TX, is ammonium sulfate, a higher-value nutrient produced from ammonia derived from natural gas and sulfur purchased from nearby refineries. Unlike the ammonia from our East Dubuque facility, which is exclusively marketed in the upper Midwest, between 30 and 40 percent of the output of the Pasadena facility is marketed in Brazil, which positively impacts our nation's balance of trade. Our two facilities are a microcosm of the overall industry, which has gone from near extinction because of high natural gas prices and foreign imports to one that is growing and competing is foreign markets.

Not only are U.S. and North American-based fertilizer companies enjoying a resurgence, foreign interests are investing in here because of favorable market conditions and the abundance and affordability of domestically produced natural gas. The Egyptian company Orascom has announced a new plant in in Iowa, while several existing facilities have begun expansion projects, including ours in East Dubuque. The chemical, steel, aluminum, and other sectors are also seeing new plants and expansions because of the affordability of natural gas and improved labor productivity.[1] Many of these facilities are or will be producing value-added products for export that would otherwise be produced abroad then further processed into end-use consumer goods, some of which would then find their way to U.S. consumers. Affordable and abundant domestic natural gas allows more of the value creation in these production lifecycles to take place in the U.S. to the benefit of U.S. companies and workers.

Yet the NERA report appears to discount the importance of these industries and associated jobs, and directly comments on nitrogen fertilizer as one of the " trade-exposed industries that would experience the largest cost increases due to higher natural gas prices..."[2] Steel, aluminum, chemicals and fertilizer may not compare as favorably to certain other industries for the proportion of value added to a finished product that were considered for this study, but they are more strategic because of their position on the value chain, in many respects. The reliability of the North American food supply is dependent upon predictable supplies of nitrogenous fertilizer. The technology and defense sectors are reliant upon commodity chemical makers to fashion key components for their products and systems, and so on. To lose or impede these segments of our manufacturing base just as they are returning to more healthy economic footing would compromise both our agriculture sector as well as a large portion of our manufacturing segment. The study also ignores the lessons learned over the period from 1999 to 2008 when natural gas prices rose from $2.19 MCF to and unsustainable level of $7.87 MCF[3] and our nation witnessed the loss of significant manufacturing capacity. We view this as no coincidence.

While some industries are returning to the U.S., affordable natural gas is creating new opportunities for the establishment of technologies and industries that have not existed here. The "gas-to-liquids" (GTL) industry is currently centered overseas, with most production in Qatar where natural gas is plentiful, cheap, and isolated from major markets. However, South African multi-national Sasol recently announced the development of a 96,000 bpd GTL plant in Louisiana which has the potential to kick-start a the industry in North America. The benefits of which would be many. Estimated to be the largest private capital investment in U.S. history, Sasol's project is a sign of things to come...if gas remains affordable.

Rentech owns technologies as those being deployed by Sasol that can be used to convert natural gas into biodegradable fuels, chemicals, drilling fluids, lubricant base oils and other high value products with high efficiency and low environmental impact. Utilizing natural gas reforming or

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[1] Boston Consulting Group "Rising U.S. Exports—Plus Reshoring—Could Help Create up to 5 Million Jobs by 2020". http://www.bcg.com/media/pressreleasedetails.aspx?id=tcm:12-116389

[2] NERA Economic Consulting Report *Macroeconomic Impacts of Increased LNG Exports from the United States* p.69-70

[3] U.S. Energy Information Administration "Natural Gas Wellhead Price" http://www.eia.gov/dnav/ng/NG_PRI_SUM_A_EPG0_FWA_DMCF_A.htm

partial oxidation technologies coupled with Fischer-Tropsch (F-T) synthesis of hydrocarbons, Rentech can produce a multitude of value-added products. The quality and performance of F-T diesel and jet fuel produced from natural gas has been well documented and demonstrated including by DOE programs such as the Ultra-Clean Transportation Fuels Initiative and multiple programs conducted by national laboratories (NETL, NREL, etc.). F-T diesel fuels from Shell's GLT refineries in Qatar and Malaysia, Petro SA's plant in South Africa, and Sasol's GTL plant in Qatar sell at premiums into European and Asian markets where they are added to conventional fuel to help reduce emissions. Furthermore, F-T derived jet fuel is fully certified for use in military and commercial aircraft under U.S. Department of Defense and ASTM specifications due to efforts by the FAA and other government and industry bodies.

While not as broadly established as nitrogen fertilizer manufacturing, production of fuels from natural gas is commercially proven and will directly displace imports of foreign crude as GTL plants efficiently produce distillate fuel products. In addition, nearly 50% of the nitrogen based fertilizer that is now consumed in the US is produced overseas but, as mentioned above, this trend is reversing. With the favorable impacts on the balance of trade comes the positive impact on domestic job growth. Money spent on imported products only benefits foreign economies, but money spent within the U.S. creates construction, manufacturing, management, technical and production jobs. All of these jobs create economic growth and generate tax revenue, unlike when money is sent overseas to pay for imported products.

The NERA study projects possible LNG exports of 6.72 TCF per year by 2025. For perspective, if this volume of natural gas were dedicated to fuels production it would provide more than enough gallons to meet the domestic jet fuel demands of the entire U.S. airline industry and the Department of Defense. It would provide for more than one-third of projected U.S. diesel fuel needs.

Finally, the "energy boom" that we are experiencing in the U.S. demonstrates the difference between regionally priced natural gas and globally priced crude oil. The price for oil produced in North
Dakota is driven not by local demand but by the market price of crude set on the New York Mercantile Exchange or the Inter-Continental Exchange in London and heavily influenced by the production quotas of the OPEC governments, even though it trades at a discount. In contrast, the Henry Hub price for natural gas reflects the supply and demand balance in the North American market, which operates largely without government involvement. It is because of potential for gain as well as loss that we urge caution on future permitting of LNG export terminals.

V. Conclusion

Rentech agrees with the assumption of the NERA study that export of North American natural gas via LNG will increase prices for consumers in the U.S. However, we disagree that the overall benefits to the economy outweigh the harm that will be done by higher prices and strongly urge

the Office of Fossil Energy to undertake a full administrative proceeding including public hearings with impacted industries and constituencies.

The revival in the U.S. manufacturing sector remains fragile and the misallocation of critical natural resources such as natural gas could end this success story, as well as compromise progress being made in reducing our dependence upon imported energy, fertilizer and other strategic materials. Considering the consequences of a misstep we believe that it is prudent to conduct a full public evaluation of not only macroeconomic impacts but also sectorial impacts to determine if the price to be paid is truly worth the cost.

Respectfully submitted,

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