

**From:** [Russ Stolle](#)  
**To:** [LNGStudy](#)  
**Subject:** 2012 LNG Export Study - Reply Comments by Huntsman Corporation  
**Date:** Sunday, February 24, 2013 4:23:44 PM  
**Attachments:** [Huntsman Reply Submission - Signed.pdf](#)

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Attached are the reply comments of Huntsman Corporation regarding the NERA Economic Consulting ("NERA") report entitled Macroeconomic Impacts of Increased LNG Exports From the United States.

Russ R. Stolle  
Senior Vice President  
and Deputy General Counsel  
Huntsman Corporation  
10003 Woodloch Forest Dr.  
The Woodlands, Texas 77380

(See attached file: Huntsman Reply Submission - Signed.pdf)

**UNITED STATES DEPARTMENT OF ENERGY**  
**OFFICE OF FOSSIL ENERGY**

**2012 LNG Export Study**

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**REPLY COMMENTS OF HUNTSMAN CORPORATION**

February 23, 2013

Huntsman Corporation (“Huntsman”) respectfully submits these comments in response to the invitation of the Department of Energy, Office of Fossil Energy (“DOE”) to comment on the study prepared by NERA Economic Consulting titled *Macroeconomic Impacts of Increased LNG Exports from the United States* (the “NERA Study”), and in reply to certain of the initial public comments on the NERA Study that were submitted to DOE on or about January 24, 2013.<sup>1</sup>

**I. Introduction**

DOE has before it 16 applications under the Natural Gas Act (the “NGA”) to export liquefied natural gas (“LNG”) to countries with which the United States does not have a free trade agreement (“FTA”) that provides for national treatment of trade in natural gas. The NGA specifies that issuance of the requested export authorizations must be in the “public interest.”

Huntsman applauds DOE’s decision to suspend processing of these applications pending analysis of cross-cutting issues bearing on public interest determinations for the applications. One step in this regard was commissioning the NERA Study and, equally importantly, subjecting the study to public scrutiny through the notice and comment process. Huntsman, however, agrees with many of the initial comments that the study is fundamentally flawed and cannot

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<sup>1</sup> See generally Notice of Availability of 2012 LNG Export Study and Request for Comments, 77 Fed. Reg. 73627 (Dec. 11, 2012).

reasonably be relied upon as the basis for development of LNG export policy, which would impact broad national interests. In that other comments have argued to the contrary,<sup>2</sup> Huntsman submits these reply comments to underscore and elaborate on certain points based on our own experience, which we believe is representative of that of others who are similarly situated.

The NERA Study, among other failings, does not properly account for opportunity costs, specifically those relating to investments in U.S. manufacturing that would be lost if DOE allowed unregulated exports of LNG, which costs would be multiplied across the economy. Additionally, the economic considerations in the NERA Study are properly viewed as only one limited dimension of a broader question that the U.S. government faces: How to administer an LNG export licensing program in a manner that is consistent with overall U.S. policy on the treatment of natural gas—a finite domestic resource that is of critical national importance.

By failing to adequately address U.S. national interests bearing on LNG exports, the record for each of the pending applications is insufficient to make a reasoned decision as to the public interest. Huntsman therefore urges DOE, in keeping with its duty under the NGA, to reject the facile and misleading conclusions of the NERA Study and to establish an effective means to determine the public interest with respect to LNG export applications, something that does not currently exist. In particular, DOE should provide an opportunity for all U.S. constituencies to participate in developing criteria and metrics for use in making public interest determinations regarding LNG export applications (currently there are none) and should continue to proceed with caution in examining the individual and cumulative impacts of each pending application in accordance with those criteria and metrics. The nation deserves no less.

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<sup>2</sup> *See, e.g.*, Comments of Bill Cooper, President, The Center for Liquefied Natural Gas (Jan. 23, 2013).

## **II. Huntsman**

Founded in the United States and headquartered in The Woodlands, Texas, Huntsman is one of the world's largest chemical companies, with operations in multiple locations worldwide. In 2012, Huntsman had global revenues of over \$11 billion. We currently employ approximately 12,000 individuals, roughly 2,000 of who are located in the United States and Canada.

Huntsman's operating companies manufacture and market differentiated chemicals, including petrochemicals. The products we sell are essential to a variety of industries, including chemicals, plastics, automotive, aviation, textiles, footwear, paints and coatings, construction, technology, agriculture, health care, personal care, furniture, appliances and packaging.

Natural gas is critical for Huntsman's businesses in two ways. First, the market for our two most important feedstocks (*i.e.*, inputs)—ethane and propane, both constituents of natural gas liquids (*i.e.*, "wet" natural gas)—tracks the market for natural gas itself. Second, we use natural gas as fuel in our manufacturing processes. For Huntsman's U.S. operations, the overall cost of natural gas and its derivatives typically constitutes over 55 percent of the total cost of our raw materials and utilities and amounts to more than \$1.5 billion of cost each year. Of this total natural gas-related cost element, approximately 75 percent is attributable to feedstocks while the other 25 percent is accounted for by natural gas consumed as utilities. Thus, Huntsman is heavily dependent, both directly and indirectly, on stable and fair pricing in the natural gas markets in order to be competitive both domestically and abroad.

## **III. Overlooked Opportunity Costs of LNG Exports**

The NERA Study comes at a watershed moment for U.S. manufacturing. Until just recently, manufacturing's share of U.S. gross domestic product steadily declined for decades as businesses moved their operations abroad in search of lower-cost labor and materials, including

natural gas.<sup>3</sup> In the past few years, however, the advent of more efficient technologies for production of shale natural gas has heralded an American manufacturing resurgence. Buoyed by long-term prospects for affordable, stably-priced natural gas, businesses are once again investing in U.S. manufacturing. Huntsman alone recently committed more than \$150 million to new investments in the United States,<sup>4</sup> and is currently evaluating additional investments of \$500 million.<sup>5</sup> This is in stark contrast to four years ago, when Huntsman spent virtually none of its growth capital in the United States, due to the high cost of raw materials at that time.

These same levels of investment will not be achieved, however, if DOE allows unregulated exports of LNG. One key reason for this is price volatility—the frequency of price changes and degree to which prices vary over any given period. Relative to other commodities, natural gas often has among the highest levels of price volatility. This is because price volatility is a consequence of short-term inelasticities of supply and demand and the market for natural gas is highly inelastic.<sup>6</sup> On the demand side, manufacturers, public utilities and other industrial consumers have limited practical ability to switch fuel sources in the short term, as their processes and infrastructures are necessarily fuel-specific in design and operation. Additionally, as regards chemical manufacturers, there are no practical substitutes for the required ethane and propane feedstocks derived from natural gas production, as it would be prohibitively expensive

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<sup>3</sup> See United Nations Statistics Division, *National Accounts Main Aggregates Database*, <http://unstats.un.org/unsd/snaama/dnllist.asp>.

<sup>4</sup> See, e.g., Huntsman Corporation, *Huntsman to Expand McIntosh, Alabama Specialty Resins Capacity by 4,500 Metric Tonnes* (Sept. 12, 2012), <http://www.huntsman.com/corporate/a/News>.

<sup>5</sup> See, e.g., Huntsman Corporation, *Huntsman Commences Design and Feasibility Studies to Expand its US MDI Manufacturing Plant* (Aug. 9, 2012), <http://www.huntsman.com/corporate/a/News>.

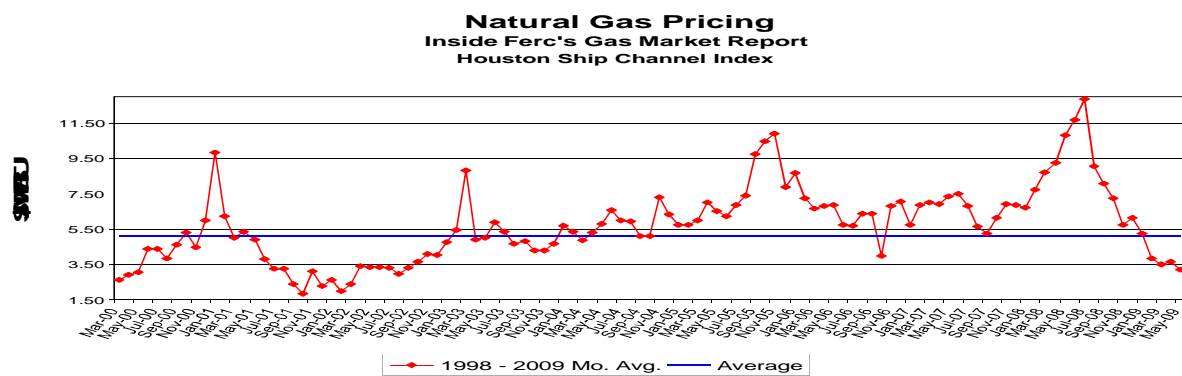
<sup>6</sup> See generally U.S. Energy Information Administration, *An Analysis of Price Volatility in Natural Gas Markets* (Aug. 17, 2007), <http://www.eia.gov/naturalgas/reports.cfm?t=9999>.

to retool existing “cracker” plants to accept other feedstocks. On the supply side, there is significant lead time required to bring additional natural gas production to market.

Erratic pricing in the natural gas market is further amplified by large-scale speculation in the financial markets, in which traders purchase and sell financial instruments that are linked to prices in the physical market. These contracts rarely result in the actual delivery of natural gas. As a result, traders are able to accumulate outsized positions. And when they do, their buying and selling can cause significant shocks to the market, and thus can dramatically move prices.<sup>7</sup>

Volatile, or, from our perspective, unpredictable natural gas pricing makes the United States a less attractive host for manufacturing operations and causes U.S. industry to forgo and cancel investment projects. During most of the past 20 years, the United States had the most volatile natural gas prices of all major gas-consuming countries. That price volatility has been particularly pronounced since 2000, with prices ranging between \$2 and \$18 per million BTUs and price spikes of as much as 40 percent in a single day, as illustrated by the following chart:

## Natural Gas



Corporate

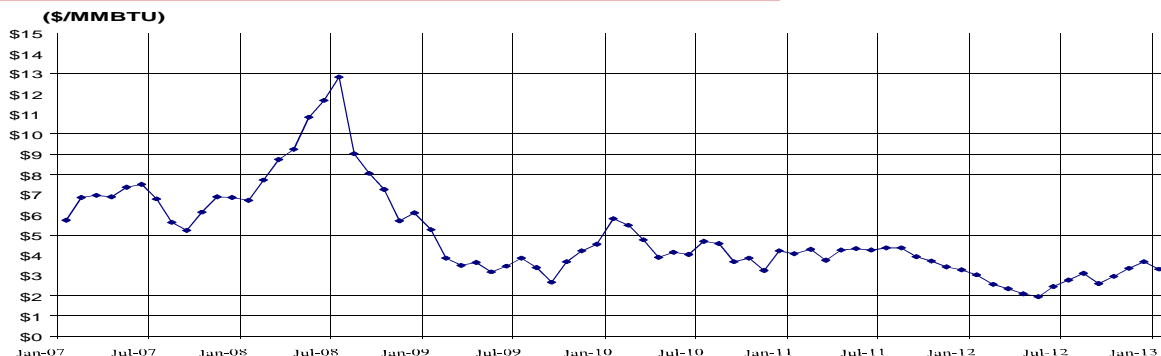
<sup>7</sup> See, e.g., Staff of S. Permanent Subcomm. On Investigations, 110th Cong., *Excessive Speculation in the Natural Gas Market*, 114 (June 25, 2007) (“Amaranth [Advisors LLC] dominated trading in the 2006 U.S. natural gas market. . . . Its trading moved prices and increased price volatility.”), <http://www.hsgac.senate.gov//imo/media/doc/REPORTExcessiveSpeculationintheNaturalGasMarket.pdf?attempt=2>.

Huntsman is one of many companies that are hurt by price volatility in the U.S. market for natural gas. One unavoidable reality of our industry is that there is a disconnect between the time at which our suppliers price our feedstocks and the time at which we can price the products that we sell to our customers. Every day, we consume huge amounts of ethane and propane. However, there is limited storage available for these gases. As a result, we must purchase vast quantities of ethane and propane—which are re-priced on an hourly basis—almost daily. Huntsman, in order to be competitive, often must enter into contracts with our customers that permit us to re-price our products no more frequently than monthly, and in some cases quarterly. In the interim, we must simply absorb the additional costs of any spikes that occur in the daily price of natural gas and the hourly prices of our principal feedstocks, which we cannot pass on to our customers. In this way, price volatility exposes us to, and in the past has caused us to incur, significant losses on our sales. Separately, volatility in natural gas prices also makes it challenging for us to meaningfully manage our budget for fuel.

Consequently, between 2000 and 2007 Huntsman decided to divest many of our U.S. businesses that are most dependent on natural gas and shift our investments overseas to countries that are less subject to price volatility. Of the multiple new plants and plant expansions Huntsman announced during that period, only one of major significance was located in the United States. Naturally, this reduction in U.S. investment was accompanied by a reduction in employment. Thus, during the same time period, the percentage of our global workforce that was employed in the United States decreased by more than 50 percent. While some employees were retained by the purchasers of our divestitures, the end result was a net loss of U.S. jobs.

More recently, with supply increases from shale natural gas, price volatility has been comparatively tempered, as illustrated by the following chart:

## Natural Gas Prices Platts Inside FERC Index – Houston Ship Channel



Corporate

Despite assertions to the contrary in some of the initial comments on the NERA Study,<sup>8</sup> unregulated LNG exports threaten to bring about a return to higher levels of volatility. This is because broadening the market introduces new possibilities for demand shocks. For example, foreign demand for LNG would be subject to non-market influences because the prices of natural gas in foreign markets are often indexed to the prices for crude oil,<sup>9</sup> which are largely a function of actions by foreign governments and OPEC—a cartel. Thus, as Andrew Liveris, CEO of The Dow Chemical Company, observed during a recent hearing before the Senate Committee on Energy and Natural Resources, there is a danger that the United States would, in effect, export market prices and wind up importing non-market prices.<sup>10</sup> Additionally, the mere announcement

<sup>8</sup> See, e.g., Comments of Tyler Johnson, Attorney, Bracewell & Giuliani on behalf of Southern LNG Company, L.L.C. (Jan. 24, 2013); Comments of Pamela Tsang, on behalf of Cameron LNG, LLC (Jan. 24, 2013).

<sup>9</sup> See generally Anthony J. Melling, Carnegie Endowment for International Peace, *Natural Gas Pricing and Its Future: Europe as the Battleground*, 7 (2010) (“The dominant [pricing] mechanism for the international gas trade . . . remains oil indexation . . .”), [http://www.carnegieendowment.org/files/gas\\_pricing\\_europe.pdf](http://www.carnegieendowment.org/files/gas_pricing_europe.pdf).

<sup>10</sup> U.S. Senate Committee on Energy & Natural Resources, *Full Committee Hearing: Opportunities and Challenges for Natural Gas* (Feb. 12, 2013) (“Senate Hearing Website”), <http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=0e5d5793-4e30-4fcd-a7c3-791c985b302e>.



of DOE approval of proposed LNG export applications could result in significant volatility long before any terminal construction even begins because traders are likely to take large positions in anticipation of future impacts and volatility.

Moreover, even if volatility levels did not increase with LNG exports, the adverse impacts of that volatility would nonetheless become more severe. This is because the effect of volatility is magnified at higher price levels where any percentage increase in price results in a greater absolute change.<sup>11</sup> The NERA Study itself acknowledges that natural gas prices will increase with LNG exports,<sup>12</sup> although it greatly understates the magnitude of that increase.<sup>13</sup> Nevertheless, the study fails to properly consider the adverse impacts that price volatility would have on the manufacturing industry and the broader economy. Indeed, the NERA Study relies on outdated data from a 2011 report by the U.S. Energy Information Administration that does not account for the recent upsurge in planned investment because those investments had not yet been announced. Perhaps not surprisingly, then, the NERA Study failed to model the potential opportunity costs from lost manufacturing investment. That is a fatal flaw.

The United States is more competitive when it has a thriving manufacturing sector. Manufacturing is distinguished by a high level of value-added in the course of processing chains and widespread, well-compensated employment. By some estimates, every manufacturing job created results in five to eight additional support and network jobs in the larger economy, and every \$1 in sales of manufactured products supports \$1.34 of additional output from other

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<sup>11</sup> U.S. Energy Information Administration, *Analysis of Price Volatility*, 5 (“[A] constant volatility at higher prices results in a greater dollar value price change at those higher prices.”).

<sup>12</sup> *See, e.g.*, NERA Study, 2 (“U.S. natural gas prices increase when the U.S. exports LNG.”).

<sup>13</sup> *Cf.* Comments of Wallace Tyner, Professor, Purdue University, 4 (Jan. 14, 2013) (explaining that a different “Purdue MARKAL-Macro [Study] gets larger natural gas price increases” than the NERA Study for the same levels of exports).

sectors.<sup>14</sup> Huntsman, for example, had 2,365 vendors and suppliers and spent nearly \$1.6 billion *in Texas alone* in 2010, contributing notably to the economic “ripple effect” of its manufacturing operations. By disregarding potential gains in manufacturing, the NERA Study lost sight of how LNG exports will affect the overall competitiveness of the United States. DOE should not.

#### **IV. Need for Informed, Balanced Policy on Determining the Public Interest**

A revised economic analysis that addresses the deficiencies of the NERA Study is a necessary step toward properly evaluating the impact of LNG exports. But it is not sufficient. The NGA mandates that DOE consider the “public interest” as a whole.<sup>15</sup> Thus, contrary to the suggestions in certain of the initial comments on the NERA Study, DOE should not be focusing solely on macroeconomic effects.<sup>16</sup> Instead, it should be employing a more comprehensive framework for evaluating all of the public interests affected by LNG exports.

To be sure, in DOE Order No. 2961—the only order to date authorizing the export of LNG to countries with which the United States does not have an FTA that provides for national treatment of trade in natural gas—DOE did address some non-economic topics, including energy security and international impacts.<sup>17</sup> But the topics identified by DOE were vague and the factual record did not reflect the full diversity of interests affected by LNG exports.

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<sup>14</sup> See America’s Energy Advantage, *A Manufacturing Renaissance*, <http://www.americasenergyadvantage.org/pages/infographic>.

<sup>15</sup> 15 U.S.C. § 717b(a) (“The Commission shall issue such order upon application, unless . . . it finds that the proposed exportation . . . will not be consistent with the public interest.”).

<sup>16</sup> Cf. Comments of Bill Cooper, President, the Center for Liquefied Natural Gas, 4 (Jan. 23, 2013) (equating the “public interest” with whether “LNG exports are good for the U.S. economy”); Comments of John S. Decker, Partner, Vinson & Elkins on behalf of Lake Charles Exports, LLC, 1 (Jan. 24, 2013) (suggesting that “the 2012 LNG Export Study demonstrate[s] that exporting [LNG] will be consistent with the public interest” by itself).

<sup>17</sup> DOE/FE Order No. 2961, *Sabine Pass Liquefaction, LLC*, FE Docket No. 10-111-LNG (May 20, 2011).

Moreover, the U.S. government has yet to establish a policy for evaluating *any* considerations regarding the public interest, economic or otherwise. In DOE Order No. 2961, for example, DOE was forced to rely on outdated policy guidelines issued in 1984 that provide loose guidance for evaluating applications for natural gas *imports*.<sup>18</sup> The absence of a policy for determining the public interest for LNG *exports* means DOE must depend on the arguments of parties in individual proceedings, who may not have the resources or insight necessary to account for the breadth of considerations that must be evaluated to determine the overall U.S. public interest. In DOE Order No. 2961, for example, DOE based its conclusions in part on the inability of the parties opposing the application at issue to produce adequate evidence.

At a recent hearing before the Senate Committee on Energy and Natural Resources, Committee Chairman Senator Ron Wyden aptly characterized this policy vacuum as a matter of serious concern:

It's [ ] important to keep in mind that the guidance the Energy Department now uses for evaluating gas export applications was originally created almost a quarter century ago for import policy. It seems to me it is now time to have a serious discussion as to whether the guidelines that now are in place . . . for approving export applications are what they need to be.<sup>19</sup>

Senator Lisa Murkowski, the Committee's Ranking Member, similarly observed that it is critical "not to rush to judgment" but rather to "thoughtfully take up these issues and consider all aspects

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<sup>18</sup> See New Policy Guidelines and Delegation Orders From Secretary of Energy to Economic Regulatory Administration and Federal Energy Regulatory Commission Relating to the Regulation of Imported Natural Gas, 49 Fed. Reg. 6684 (Feb. 22, 1984).

<sup>19</sup> Senate Hearing Website; see also Letter from Senator Ron Wyden to Secretary Steven Chu (Oct. 23, 2012), <http://www.wyden.senate.gov/download/wyden-letter-to-secretary-chu-on-lng-export-criteria>.

of them.”<sup>20</sup> Huntsman agrees. Broad public input is imperative to establish regulatory criteria and metrics needed to enable DOE to discern the public interest for LNG export applications.

## V. Conclusion

In light of the many failings of the NERA Study, only some of which are discussed herein, Huntsman respectfully requests that DOE postpone its decision on all LNG export applications under review pending a revised economic analysis and completion of a rulemaking proceeding to establish criteria and metrics for LNG export public interest determinations.

To be clear, Huntsman is not advocating that all pending LNG export applications be denied. As a corporate citizen with deep roots in this country, however, Huntsman is concerned that precipitous approval of the many LNG export applications now pending—which collectively seek authority to export volumes equal to 40 percent of current U.S. natural gas consumption for terms of up to 20 years—would prove short-sighted and risk squandering an unprecedented opportunity to promote U.S. competitiveness through a strong manufacturing base. Huntsman therefore requests that DOE stay the course and continue to engage in a thoughtful and deliberate process to achieve an informed, balanced treatment of natural gas policy, including LNG exports.

In the words of Senator Murkowski: “[W]e want to be careful here, we don’t want to run out and do something precipitous that we might in terms of a policy regret later, let’s make sure we have all eyes open and watchful in terms of how we advance.”<sup>21</sup> Commissioning the NERA Study was an important step by DOE in the right direction. But, given the numerous shortcomings of the study, there is still much work to be done, including a revised economic analysis and an open, public process that could lead to the development of criteria and metrics for making public interest determinations in connection with LNG export applications.

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<sup>20</sup> Senate Hearing Website.

<sup>21</sup> *Id.*

DOE must not stop now. As Senator Wyden observed: “The reason we are putting so much time into this [evaluating LNG exports] . . . is this has the potential to be a real American success story, where we work together, have all the stakeholders involved, this has the potential to be an extraordinary success story, a story for the times, an American success story.”<sup>22</sup>

Respectfully submitted,

/s/ Brian V. Ridd

Brian V. Ridd  
Senior Vice President, Purchasing  
Huntsman Corporation  
10003 Woodloch Forest Dr.  
The Woodlands, Texas 77380

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<sup>22</sup> *Id.*