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Comments Submitted to the Railroad Commission of Texas on the Matter of the Pioneer Natural Resources U.S.A Inc. and Parsley Energy, Inc. request for determination of reasonable market demand

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My name is Tom Sanzillo, Director of Finance for the Institute for Energy Economics and Financial Analysis (IEEFA). I write to respond to the request for comment by the Texas Railroad Commission (RRC)[1] on the matter of the verified complaint[2] of Pioneer Natural Resources U.S.A. Inc. and Parsley Energy, Inc. ("the complainants") to determine reasonable market demand for oil in the State of Texas.

IEEFA is a non-profit organization which conducts research and analyses on financial and economic issues related to energy and the environment. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

IEEFA supports the general proposition that the RRC should establish production goals for the industry and companies involved in oil and gas production in Texas. RRC production goals should be based on the need to establish an orderly process to rationalize the market to meet the short-term issues outlined by the complainants. The RRC must also acknowledge that the oil and gas industry is a smaller industry today than in the past and is likely to continue to decline in market share and profitability for the foreseeable future. To ensure a smoother functioning energy market that can emerge from the current crisis, to participate in the nation's economic recovery, and to address the longstanding issues facing the industry, the RRC must also commit to taking a long-term and persistent regulatory approach to setting production goals for the oil and gas industry. Short-term actions will prove to be counterproductive to the industry, the economy and to the people of the State of Texas.

Background

The complainants argue that the RRC is compelled to act, to issue orders and to promulgate rules when production is in excess of reasonable market demand. Under Texas law, when production is in excess of demand, the surplus production is deemed to be waste. The RRC is charged with taking

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[1] Railroad Commission of Texas, Current Meeting Notice, published April 2, 2020
[2] Baker Botts, Oil Prorationing in the Spotlight at Texas Railroad Commission, March 31, 2020

actions to curtail waste and, as the complainants argue, to mitigate industry disruption. The complainants state that the current market will require companies to cut production ("shut in wells") but that for RRC to do so without a uniform set of rules will result in unfairness.

The complainants characterize the current market:

> The global oil market is experiencing unprecedented disruption resulting from simultaneous, opposing shocks to both supply and demand. In particular, two global phenomena are driving these shocks: a market share war between Russia and Saudi Arabia, resulting in a sudden, massive surge in the supply of oil; and the outbreak of the COVID-19 pandemic, resulting in the precipitous decline in oil demand. Reportedly, Russian leaders specifically aim to cripple U.S. shale oil production in order to reduce global capacity and competition from U.S. oil exports.
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> As a result of the sudden and dramatic drop in demand, combined with the rapid increase in oil supplies from Saudi Arabia, other OPEC countries and Russia, an unprecedented and massive oil supply surplus (as high as 20 million barrels per day of oil) already is pouring into the global market. At the current rate, 100 million barrels of oil per week could be added to inventories during the second quarter of 2020.

The complainants' argument is supported by two publications written by the leading industry experts, which are included as exhibits: *Light Speed Oil Surplus: Emergency Conditions for the Oil Industry: Global Crude Oil Markets, Short Term Outlook,* by IHS Markit, March 20, 2020 and *Rapidan's Short-Term Oil Balance Update,* by Rapidan Energy Group, March 29, 2020.

Are the complainants characterizing the problem accurately?

Yes and no. It is plain that the coronavirus pandemic has substantially curtailed demand. What is not made clear in the complaint is that the recent demand shock from the economic fallout over the virus compounded an already existing long-standing oversupplied market.[3] It is also plain that the current price war between Saudi Arabia and Russia flows from a deterioration in political cohesion over the historical governing structures of the energy industry, which have been led for the most part by the Organization of Petroleum Exporting Countries (OPEC).

The cumulative impact of these two factors, when combined with the rise of production in the United States from unconventional oil and gas drilling ("fracking"), have been leading causes of a decline in oil and gas prices. Other broader causes related to the changing structure of demand for oil and gas has also influenced the deterioration of the industry.

None of these factors are of recent origin. The current precipitating events of the coronavirus and the conflict between Russia and Saudi Arabia simply bring these festering problems into sharp relief.

- As summary evidence of the long-term nature of the energy sector's problems, the RRC should consider that the oil and gas sector comprised 28% of the Standard & Poor's Index[4]

[3] IEA, Oil 2020 – Fuel Report, March 2020
[4] Siblis Research. S&P 500 sector weightings 1979-2019

in the 1980s. As of March 31, 2020, the oil and gas sector makes up only 2.6% of the S&P Index.[5]

- As summary evidence of the long-term nature of the energy sector's problems, the RRC should consider that for the last ten years the energy sector has underperformed the stock market. For many years prior the energy sector led the world market. In 2018 and 2019 the energy sector placed last among all sectors indexed in the S&P 500 and it is likely that this will continue to be the case in 2020.[6]
- The role of fracking in creating an oversupply of oil and gas in the United States over the last decade is well known.[7] The inability of unconventional producers to establish a successful business model is also well known.[8] The retreat by institutional investors from the fracking sector is well recognized.[9]
- The oversupply issue is most visible as the industry continues to flare increasing amounts[10] of gas that, although extracted, has no economic value.
- The political consensus that once ruled the industry is increasingly fragmented. The declining significance of OPEC as the focal point for market rationalization reflects the deterioration in its members' collective market share and the rise of the role of the U.S. and Russia[11] in the market.
- The changing composition of GDP growth from economies that are heavily reliant on fossil fuels to those less reliant on fossil fuels is apparent. [12]
- The serious decline in oil prices from the mid-$50s/barrel to below $20/barrel represents a drop from an already low price to a very low price. Most oil and gas companies, recovering from the price collapse of 2016, have responded by introducing greater efficiencies and driving down production costs. Many now contend they can accept lower prices -- in the $60/barrel range[13] – for longer. Most oil and gas companies, however, have not demonstrated that prices in this range can improve balance sheets and raise investor confidence. The sector remains an underperformer in the stock market.

One conclusion from these trends is that the economy is now capable of financial growth even if the fossil fuel sector is not growing.

In response to a question about broad market activity and competition between large U.S. oil majors and independents in the current environment, Scott Sheffield, CEO of Pioneer Natural Resources, and a signatory to the complaint that initiated this proceeding, recently said, referring to the industry "We have no solutions."[14]

A more analytical framing of the issue from Daniel Yergin, Vice Chairman of IHS Markit, makes the depth of the problem clear. Mr. Yergin, responding to a broad discussion of current markets related

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[5] S&P 500 Indices

[6] IEEFA, IEEFA update: Oil and Gas Stocks Place Dead Last in 2019 Again, Despite 30% Price Rise, January 9, 2020

[7] Wall Street Journal, A Decade in Which Fracking Rocked the Oil World, December 17, 2019

[8] Wall Street Journal, Fracking Buzzwords Evolve, From 'Ramp Up' to 'Capital Discipline', September 9, 2019

[9] Reuters, Small U.S. Oil and Gas Companies Get Cold Shoulder from Large Banks, October 28, 2019

[10] Reuters, U.S. Old Fields Flared and Vented More Natural Gas Again in 2019: data , February 3, 2020

[11] World Bank Group, The Great Plunge in Oil Prices: Causes, Consequences, and Policy Responses, March 2015, see page 13.

[12] McKinsey Quarterly, The Decoupling of GDP and Energy Growth: A CEO Guide, April 2019

[13] ExxonMobil, 2020 Investor Day, March 5, 2020

[14] CNBC, Pioneer Natural Resources CEO Warns Independent Oil Companies Could Go Bankrupt if Production Continues Amid Coronavirus, March 26, 2020

to the coronavirus pandemic, geopolitics and oversupply, said: "…a battle for market share in a constricting market is not going to get you money."[15]

The RRC is being asked to set rules not only in relation to the immediate crisis but against a backdrop of highly competitive companies in a constricting market, companies that have now demonstrated that normal systems of market adaptation are likely to continue to create market dysfunction. This is not a short-term matter.

What will happen if the RRC adopts a short-term system of production goals?

The complainants ask for assistance to reduce production so that surplus oil currently held in industry storage assets can be consumed. They argue that undisciplined production should not be allowed to continue. The complainants properly argue that the reduction in production will take place with or without rules. Without rules, the process is likely to result in serious market disruption – which the complainants only hint at – including job losses, tax losses and the destruction of local economies throughout Texas (and beyond).

The plan to restrict supply, rebalance the market and raise prices is remarkably short-sighted. A recent Goldman Sachs note reflects some of this thinking: "While oil prices are low today and physical constraints are forcing the behavioral changes, as oil shortages develop once economic activity normalizes, the high oil prices will likely accelerate the energy transition by constraining demand."[16]

Rising oil prices no longer take place in an environment where oil consumers must simply adapt to the high prices. Consumers – be they individual households, businesses or nations –have choices that can diminish or sometimes even eliminate reliance on high-priced oil or gas. In fact, it is likely that rising prices will restrict demand for fossil fuels, diminishing the market for oil and gas, but not diminishing overall energy use or economic growth. In a constricting market, short-term RRC production goals may reduce surpluses, but unchecked, will encourage individual companies to revert to their prior practice of increasing drilling. Short-term price increases will erode market share and encourage a new round of oversupply and another price collapse.

A similar insight is true for the natural gas market. Assuming medium-term economic disruption from the coronavirus, the ways in which the economy recovers will be critically important. During recessions, regulated utilities in the U.S. usually maintain value due to the smoothing effects of rate agreements between State Public Service Commissions and the utility companies.[17]

Moody's has recently pointed out that regulated utilities with midstream assets in the natural gas sector are more vulnerable to negative credit events due to commodity market fluctuations and recovery.[18] They have also pointed out that merchant generation is subject to greater risk for those exposed to fossil fuels as compared to renewable energy.[19]

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[15] CNBC, Oil Market is Facing a 'Triple Whammy' of Pressures, Oil Expert Daniel Yergin Says, March 9, 2020
[16] Reuters, Oil Views: An Industry game changer, Goldman Sachs, March 30, 2020.
[17] Moody's, Utilities demonstrate credit resilience in the face of coronavirus disruptions, March 18, 2020 (subscription required)
[18] Ibid.
[19] Moody's, Outlook changed to stable as coronavirus hits power prices, political intervention rises, April 2, 2020 (subscription required)

IHS Markit recently underscored the point that fossil fuels will be a less desirable investment opportunity post-recession for utilities than renewable energy:

> "If you look at the returns in the oil and gas sector, they've been very poor, let's say—not just in the last few weeks but the last few years," said Atul Arya, senior vice president for energy at IHS Markit.
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> "Private capital investment looking for good candidates to invest post-coronavirus will be examining the relative merits of investing in oil and renewables," Arya said. "My view is that the renewables investment will look even more attractive."[20]

Recent reports also suggest that industry efforts to bolster profits through greater investment in petrochemicals are also facing troubling market forces.[21]

The complainants clearly want oil and gas prices to rise as a way to improve profitability. However, given the longer-term problems facing the industry, it would take a prolonged rise in prices over a long period of time, coupled with a positive outlook in most of the sectors served by fossil fuels, to re-instill investor confidence.

What should be done?

Based on the need to adopt a long-term perspective, we recommend that the RRC adopt production cuts.

The current low-price environment hurts company profits. The prolonged nature of low prices that started before both the cornonavirus and the Saudi-Russia price war is unsustainable for oil and gas companies. The causes of low prices – technological competition, political disarray and oversupply – are likely to continue.

Market and governmental interventions to raise prices may have an impact in the short term. But as prices rise, the level of increase will be constrained by competitive pressures from alternative technologies and other challenges. Price increases are unlikely to reach levels where investors will be confident of returns.

This price dilemma where neither low prices nor rising prices solve the industry's financial problem has an industry-wide impact. Large oil companies that see in this period of industry distress an opportunity for greater market share pose a particular problem for the RRC. ExxonMobil for example, is poorly positioned to execute such a strategy. In 2007, the company's market capitalization was over $500 billion. The company hit a recent low of $133 billion on March 23, 2020.[22] ExxonMobil's history of strong project execution has failed financially on a series of projects over the last decade.[23] Current efforts by the company to maintain an aggressive capital spending program have failed to restore investor confidence.[24] If the RRC embraces this approach, it does so at great peril to the oil and gas industry.

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[20] National Journal, Coronavirus Crisis: Could Fuel Move to Renewable Energy? April 6, 2020
[21] Shaledirectories.com, Market Conditions Threaten U.S, Petchem Projects, March 25, 2020
[22] YCharts, ExxonMobil Corp, accessed April 6, 2020
[23] Reuters, Exxon CEO Struggles To Reverse Tillerson's Legacy of Failed Bets, March 7, 2018
[24] Reuters, Exxon To Push Ahead with Spending Plans Despite Investor Concerns, March 5, 2020

The cumulative impact of current market forces provides a signal that the RRC leadership can do something about. The market forces outlined above are indications that the industry will consist of fewer companies, extract less oil and gas, be highly competitive, produce lower profits, require greater emphasis on innovation and be less powerful as a political force. The entire industry and government business model that has evolved in the United States over the last sixty years no longer functions. It does not produce a profitable environment for oil companies. The industry is threatened and along with it, market systems of oil and gas allocation and distribution that provide basic necessities to people and businesses in the U.S. and around the world. The fundamental conception of reasonable market demand is at stake.

As the oil and gas industry gets smaller over the years, the RRC will have to make some difficult choices. It can be a bystander, watching the industry contract in what is likely to be a chaotic way, featuring multiple bankruptcies, stock market disruptions, layoffs and government revenue problems. These issues pose challenges for the Texas economy and the planning choices for many local governments that are now dependent on the industry for jobs, taxes and a healthy economy. Or it can be an active regulator, mandating reductions in extraction apportioned rationally across the industry according to a time frame that will enable private industry and government actors to limit their exposure to chaos. IEEFA suggests that RRC should choose to become an active regulator.

A long-term perspective means that this decision cannot simply be designed to address the current physical oversupply of oil and gas. The RRC must become a forum for a wholesale shift in the role of the industry as it becomes smaller. This will require more analytical work by the RRC on broader topics, an upgrade and broadening of staff capacity and a greater presence in Washington and the marketplace to insure that its decisions on the oil and gas sector in Texas are coordinated with other oil and gas-producing regions in the nation and globally.

This view of the RRC pushes the bounds of how it sees its role as a regulator of a state economy. The RRC may currently have inadequate tools for the job at hand, but like the complainants, we believe it is the only venue available for a discussion of the rationalization of the oil and gas sector in the U.S. If ever there were a time when leadership must rise to the occasion, this is it.

One final note: IEEFA fully expects this analysis and general recommendations to be rejected by the oil and gas industry generally. This was the response of the coal industry in the late 2000's when similar warnings were issued. The coal industry rejected every effort to redesign its business model in the wake of significant changes in market conditions. The coal industry never mounted a successful recovery effort using the outdated business model it had developed with the federal government over forty years ago. After numerous bankruptcies, a series of failed initiatives, a rollback of some environmental rules and even the election of a pro-coal President, industry market share declined from 50% of the U.S. electricity market to 23.5% in 2019[25]. In recent years the industry's decline has intensified and shows no signs of abating. The result has been devastating both for the people who built the industry and for the communities that hosted it.

The RRC has a clear opportunity to rise to an extraordinary challenge and to prevent a similar trajectory for the oil and gas industry.

[25] IEEFA, U.S. Coal Outlook 2020: Market Trends Pushing Industry Ever Closer to a Reckoning, March 2020