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THE IMPLICATIONS OF REFINERY CLOSURES FOR U.S. HOMELAND SECURITY AND CRITICAL INFRASTRUCTURE SAFETY

FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON COUNTERTERRORISM AND INTELLIGENCE

OF THE

COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

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CONTENTS

Page

STATEMENTS

The Honorable Patrick Meehan, a Representative in Congress From the State of Pennsylvania, and Chairman, Subcommittee on Counterterrorism and Intelligence:
Oral Statement 1
Prepared Statement 4
The Honorable John Carney, a Representative in Congress From the State of Delaware 6
The Honorable Michael G. Fitzpatrick, a Representative in Congress From the State of Pennsylvania 7
The Honorable Brian Higgins, a Representative in Congress From the State of New York, and Ranking Member, Subcommittee on Counterterrorism and Intelligence:
Prepared Statement 7

WITNESSES

PANEL I

Mr. Howard Gruenspecht, Acting Administrator, Energy Information Administration, Department of Energy:
Oral Statement 9
Prepared Statement 11
Mr. Brandon Wales, Director, Homeland Infrastructure Threat and Risk Analysis Center, Department of Homeland Security:
Oral Statement 14
Prepared Statement 16

PANEL II

Mr. Charles Drevna, President, American Fuel and Petrochemical Manufacturers:
Oral Statement 30
Prepared Statement 32
Mr. Robert Greco, Group Director, Downstream and Industry Operations, American Petroleum Institute:
Oral Statement 39
Prepared Statement 40

THE IMPLICATIONS OF REFINERY CLOSURES FOR U.S. HOMELAND SECURITY AND CRITICAL INFRASTRUCTURE SAFETY

Monday, March 19, 2012

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON COUNTERTERRORISM AND INTELLIGENCE,
Aston, PA.

The subcommittee met, pursuant to call, at 10:11 a.m., in the Mirenda Center for Sport, Spirituality, and Character Development at Neumann University, One Neumann Drive, Aston, Pennsylvania, Hon. Patrick Meehan [Chairman of the Subcommittee] presiding.

Member present: Representative Meehan.

Also present: Representatives Carney and Fitzpatrick.

Mr. MEEHAN. The Committee on Homeland Security, Subcommittee on Counterterrorism and Intelligence will come to order. The subcommittee is meeting today to hear testimony regarding the implications that refinery closures have on homeland security and critical infrastructure safety.

First, I would like to thank everybody including the witnesses for attending this morning. I appreciate the effort that has been taken on behalf of all of those involved to have this important field hearing. This is an official Congressional hearing as opposed to a town hall meeting, and as such, we must abide by certain rules on the Committee of Homeland Security and the House of Representatives, and I kindly wish to remind our guests today that demonstrations from the audience, although I suspect and know that you will be behaved, including applause and outbursts, as well as those of other decorum issues, would be the same as if we were in the House of Representatives, so I ask that you keep those an appropriate control as it is important that we respect the decorum and rules of the committee. I have also been requested to state that according to those rules, photography and cameras are limited to accredited press only.

Now that we have those housekeeping issues behind us, before we begin, I would like to ask unanimous consent that Congressman Mike Fitzpatrick from Pennsylvania's 8th Congressional District and Congressman John Carney of Delaware be permitted to participate in today's hearing. Although they do not sit fully as Members of the Homeland Security Subcommittee, they have requested and I am very, very grateful to have their participation here today on

this committee, and Congressman Fitzpatrick spoke to me just a few minutes ago, and here he is. He has just arrived.

I would also like to express my deep appreciation to President Rosalie Mirenda and the family here at Neumann University for allowing us to take advantage of this beautiful facility, and I guess it is the right time of year to be in a basketball court, but I am thankful for all of their hospitality, and I know that President Mirenda considers herself a real neighbor to the area, which is so dramatically affected by the proposed closings. So what I would like to do is reserve myself a moment to make an opening statement.

I would like to welcome everyone to today's Subcommittee on Counterterrorism and Intelligence field hearing. I look forward to hearing from today's witnesses on the impact the refinery closures will have on the security of our critical infrastructure and the continued safety of the homeland. This issue is not only important locally but the closure of these refineries will have powerful repercussions for the entire Northeast region and the entire country. For these reasons, I am glad to have today's witnesses to delve deeper into these issues and to determine the potential vulnerabilities in the event of a terrorist attack or a natural disaster.

At today's hearing, I hope to gain answers to the following critical questions. What are the reasons that refineries are closing in the United States? If the Northeast is the largest gasoline market in the United States, why are particularly East Coast refineries being closed? What are the consequences of the recent refinery closures in the Northeast on the immediate and long-term oil supply? How will these resulting shortages be addressed? What are the security issues raised by greater reliance on pipelines, shipping, and rail for product delivery to the Northeast? What are the National security implications if the loss of refining capacity and expertise that we have here in the United States is allowed to dwindle? What is being done to address those security issues and stresses on our critical infrastructure systems?

As we all well know at the local level, the decline of domestic regional refining in our Nation is alarming, and in my view will affect our National and homeland security. On September 6, 2011, Sunoco announced that they would be idling their Marcus Hook and Philadelphia refineries by July 1, 2012, if a buyer could not be found. Just 3 weeks later, ConocoPhillips announced that they planned to idle and sell their refinery in Trainer, Pennsylvania. These three area refineries represent 50 percent of the total East Coast refining capacity. If the recent decision to close the HOVENSA facility in St. Croix is included, these closures represent a production loss of more than 1 billion barrels a day from our region.

The economic impact of these closures is obvious and devastating. Our local workforce is among the best in the world with a demonstrated record of excellence and safety. Thousands will lose their jobs. Some already have.

As a lifelong resident of the greater Philadelphia area, I know the role that the refineries have played, a major role in our local economy. Our family and friends work at the refineries and support local businesses. Moving forward, our entire delegation remains

committed fully to helping secure a buyer so that these facilities can continue operations, but as we deal with the local implications, it is proper to ask: What is the impact of disruptions to oil distribution systems, particularly natural disasters like hurricanes or earthquakes? The Gulf Coast is the largest supplier of domestic refined products and a major source of important crude for the United States.

Our country relies on a complex and modern infrastructure system to distribute energy domestically. This reliance is critical to delivering necessary supply to meet demand in the Northeast as well as in all regions of our country. Any minor disruption in this system can create major problems for many of the very things that we depend on every day, from heating our homes to fueling our vehicles. A major disruption can cause serious issues for our Nation and our security.

If a buyer is not found for the Philadelphia refinery and the facility is closed, over half the refining capacity in the Northeast will be removed in a span of only 6 months. I have serious concerns as to how much stress this puts on the current infrastructure system and the increased risk in the event of a natural disaster, terrorist attack, or other geopolitical event.

After Hurricanes Katrina and Rita hit the Gulf Coast, we witnessed just how vulnerable the reliance on the Gulf Coast and pipeline infrastructure for energy supplies can be. Five days after Hurricane Katrina struck, the U.S. Minerals Management Service reported that 88½ percent of Gulf crude oil production was shut down or off-line. This amounted to 25 percent of the total Federal off-shore crude production, leaving many platforms evacuated or destroyed. Less than a month later, Hurricane Rita made landfall in the Gulf, resulting in significant damage. The cumulative effect of these two storms resulted in the temporary suspension of operations at 10 refineries, a loss of over 2 million barrels per day from the market, and significant pipeline disruption. The Colonial pipeline, a critical artery for the Northeast to receive our refined fuel products from the Gulf, was temporarily closed, along with Capline and Plantation pipelines.

Of similar concern is the threat to oil facilities from acts of terrorism. Since the September 11, 2001, terrorist attacks, there has been great concern about the security of the Nation's critical infrastructure including oil refineries and pipelines. Al-Qaeda and its affiliate networks have previously expressed interest in attacking critical infrastructure in the homeland including oil and gas facilities. Last year, the Department of Homeland Security and the FBI warned State and local police across the United States that al-Qaeda has a continued interest in attacking oil and natural gas targets. In fact, this information came directly from intelligence that was seized during the raid of Osama bin Laden's compound in Abbottabad. Al-Qaeda targeting the oil infrastructure has long been a part of the al-Qaeda playbook.

In 2002, the group claimed responsibility for the bombing of a French oil supertanker off the coast of Yemen. In a brazen February 2006 operation, al-Qaeda attacked the Abqaiq facility in eastern Saudi Arabia. The facility is one of the world's largest and it produces 13 million barrels of oil per day. Although the damage in-

flicted by the attack was quickly contained, the mere news of an attack pushed oil prices up by $2. Perhaps more significantly, experts believe that attacks on oil and gas infrastructure could be an increasingly common likelihood as al-Qaeda changes its target set to an area that would garner the most attention and inflict the most damage on the United States' economy. Relatedly, the Department of Homeland Security recently warned about cyber attacks against the oil and gas sectors by the hacker group Anonymous.

In closing, the threat to our energy distribution system is very real. Accidents, natural disasters, and terrorist attacks have proven to disrupt oil facilities' operations in the past. I expect that they will also do it in the future. That is partly why I am concerned about further pressuring our delivery systems to accommodate in the event of Philadelphia refinery closures.

I look forward to hearing from today's witnesses on how these closures will impact the region and the country and how we can provide for the continuing security of our oil distribution systems and the safety of our homeland.

[The statement of Mr. Meehan follows:]

PREPARED STATEMENT OF CHAIRMAN PATRICK MEEHAN

MARCH 19, 2012

I would like to welcome everyone to today's Subcommittee on Counterterrorism and Intelligence field hearing.

I look forward to hearing from today's witnesses on the impact the refinery closures will have on the security of our critical infrastructure and the continued safety of the U.S. Homeland.

This issue is not only important locally but the closure of these refineries will have powerful repercussions for the entire Northeast region and the entire country.

For these reasons, I am glad to have today's witnesses to delve deeper into these issues and to determine the potential vulnerabilities in the event of a terrorist attack or a natural disaster.

IMMEDIATE QUESTIONS ON REFINERY CLOSURES

At today's hearing, I hope to gain answers to the following critical questions:

- What are the consequences of the recent refinery closures in the Northeast on immediate and long-term oil supply?
- How will the resulting shortages be addressed?
- What are the security issues raised by greater reliance on pipelines, shipping, and rail for product delivery to the Northeast?
- What is being done to address those security issues and stresses on our critical infrastructure systems?

BACKGROUND INFORMATION ON THE ISSUE

As we all well know at the local level, the decline of domestic regional refining in our Nation is alarming, and in my view, will affect our National and homeland security.

On September 6, 2011, Sunoco, Inc. announced that they would be idling their Marcus Hook and Philadelphia refineries by July 1, 2012, if a buyer could not be found. Just 3 weeks later, ConocoPhillips announced that they planned to idle or sell their refinery in Trainer, Pennsylvania.

The economic impact of these closures is obvious. Our local workforce is among the best in the world with a demonstrated record of excellence and safety.

As a lifelong resident of the greater Philadelphia area, I know the refineries have played a major role in our local economy. Our family and friends work at the refineries and support local business.

Moving forward, I remain fully committed to helping secure a buyer so these facilities can continue operations.

IMPACT OF DISRUPTIONS TO OIL DISTRIBUTION SYSTEMS

The Gulf Coast is the largest supplier of domestic refined products and a major source for imported crude for the United States. Our country relies on a complex and modern infrastructure system to distribute energy domestically. This reliance is critical to delivering necessary supply to meet demand in the Northeast, as well as in all regions of our country. Any minor disruption in this system can create major problems for many of the very things that we depend on every day from heating our homes to fueling our vehicles. A major disruption can cause serious issues for our Nation and our security.

If a buyer is not found for the Philadelphia refinery, and the facility is closed, over half of the refining capacity in the Northeast will be removed in a span of only 6 months. I have serious concerns as to how much stress this puts on the current infrastructure system and the increased risk in the event of a natural disaster, terrorist attack, or other geopolitical event.

After Hurricanes Katrina and Rita hit the Gulf Coast, we witnessed just how vulnerable the reliance on the Gulf Coast and pipeline infrastructure for energy supplies can be.

Five days after Hurricane Katrina struck, the U.S. Minerals Management Service (MMS) reported that 88.5 percent of Gulf crude oil production was shut-in, or "offline". This amounted to 25 percent of the total Federal offshore crude production, leaving many platforms evacuated or destroyed.

Less than a month later Hurricane Rita made landfall in the Gulf resulting in significant damage. The cumulative effect of these two storms resulted in the temporary suspension of operations at 10 refineries, a loss of over 2 million barrels per day from the market, and significant pipeline destruction. The Colonial pipeline, an artery for the Northeast to receive our refined fuel products from the Gulf, was temporarily closed, along with Capline and Plantation pipelines.

THE THREAT TO OIL FACILITIES FROM ATTACKS

Since the September 11, 2001 terrorist attacks, there has been great concern about the security of the Nation's critical infrastructure, including oil refineries and pipelines.

Al-Qaeda and its affiliate networks have previously expressed interest in attacking critical infrastructure in the homeland, including oil and gas facilities.

Last year, the Department of Homeland Security and the FBI warned State and local police across the United States that al-Qaeda has a "continuing interest" in attacking oil and natural gas targets. In fact, this information came directly from intelligence seized during the raid on Osama bin Laden's compound in Abbottabad, Pakistan. Al-Qaeda targeting of oil infrastructure has long been a part of the al-Qaeda playbook.

In 2002, the group claimed responsibility for the bombing of a French oil supertanker off the coast of Yemen.

In a brazen February 2006 operation, al-Qaeda attacked the Abqaiq facility in Eastern Saudi Arabia. This facility is one of the world's largest and produces 13 million barrels of oil per day.

Although the damage inflicted by the attack was quickly contained, the mere news of an attack pushed oil prices up by $2. Perhaps more significantly, experts believe that attacks on oil and gas infrastructure could be an increasingly common likelihood, as al-Qaeda changes its target set to an area that will garner the most attention and inflict the most damage on the U.S. economy.

Relatedly, the Department of Homeland Security recently warned about attacks against the oil and gas sector by the hacker group Anonymous.

CLOSING

The threat to our energy distribution system is very real. Accidents, natural disasters, and terrorist attacks have proven to disrupt oil facilities' operations in the past. I expect they will also do so again in the future.

That is partly why I am so concerned about further pressuring our delivery systems to accommodate for the Philadelphia refinery closures.

I look forward to hearing from today's distinguished witnesses on how these closures will impact the region and the country, and how we can provide for the continued security of our oil distribution systems and the safety of our homeland.

Mr. MEEHAN. At this point in time, I would like to recognize the gentleman from Delaware, Mr. Carney, for any statement that he may have.

Mr. CARNEY. Thank you very much, Congressman Meehan. It is a privilege to have the opportunity to join you and Congressman Fitzpatrick at this field hearing today for the U.S. Homeland Security and Critical Infrastructure Safety Committee. I want to thank you for obtaining unanimous consent, which I know is required of the committee for a Member of the House who is not on the committee to participate, and I know that that is not always easy, particularly even getting the votes from your own side.

But this is an issue that you and I, Congressman Fitzpatrick and the rest of our regional delegation including Congresswoman Schwartz, Congressman Brady, and Congressman Fattah have been working on since the news broke several months ago, and our efforts have been really fairly simple, and that is to work with refineries, their employees, and other interested parties in keeping these facilities open and operating. Those efforts have included meeting with prospective buyers trying to sort out some of the issues that we are going to delve into today in terms of the reasons that the refineries are closing and are finding themselves non-competitive in the global oil markets and those are some of the questions that I have today.

But our goal throughout has been really pretty simple. This, I think, is a different attack really to the problem as we look at trying to sort through some of these issues, and some of the issues that you identified in your opening statement in terms of the reasons that the East Coast refineries in particular are closing. We had the misfortune down the road in Delaware of having the Delaware City refinery close for some time and then be reopened. Of course, we have had long discussions about how that experience may apply up here in southeastern Pennsylvania.

I am interested in hearing about what drives pricing and what drives the ability of refineries to make a profit. Sunoco leaders have told us for some time that they have been losing large amounts of money on a monthly basis, and of course, my constituents just see the price at the pump going up and don't quite understand how that doesn't flow through to the refinery and the folks that work there.

I am particularly concerned, as you are, Congressman Meehan, about the effects of a shutdown like this or reduced refining capacity in our region on our economic assets in this region and on price stability for our consumers, our constituents, and the businesses that we represent.

All the industries that I talk to, and I know that my colleagues talk to, tell me today that the most important component of being successful is quality of the workforce. We know here that for generations of families in the area where I grew up in Claymont, Delaware, and other places in New Castle County and of course here in Pennsylvania have manned those facilities with a quality workforce that is necessary to get the job done. It is disturbing to see these refineries at risk when we know that the work there is being done by a quality workforce.

One of the other issues that you identified, Mr. Chairman, in your opening statement is the fact that our region, if and when these refineries close, will depend then on the logistics of pipelines and ships moving product in and out of our region and that raises

questions about the security of those logistics to attack by terrorist groups and others.

So I want to just close by thanking you again for including me in this field hearing, for getting the approval to have the hearing in the first instance, and I look forward to having a dialog with the experts, and I want to thank the witnesses for coming. It is a lot more difficult, I am sure, for you to get here maybe than it would be to get to our hearing rooms on the Hill. It is a hell of a lot easier for me to get here from Wilmington than it is to get to the District of Columbia.

So thank you very much and I look forward to our discussions this morning.

Mr. MEEHAN. Thank you, Mr. Carney.

Now I would also like to turn to our colleague in the House, the gentleman from Pennsylvania's 8th Congressional District, Mr. Fitzpatrick, for any opening comments he may have.

Mr. FITZPATRICK. Good morning, and I would like to thank the Chairman, Mr. Meehan, for convening this critically important hearing here in Pennsylvania and this part of the country and for inviting Representative Carney and me also the opportunity to be here to listen to these witnesses and to ask the questions that really are on the minds of so many Americans.

The rising cost of energy of course is dominating the headlines and impacting so significantly our budgets, our business budgets, and our family budgets, demonstrating, I think, for all of us how economic security, energy security, and National security are all really inextricably intertwined in this industry.

There were riots because of rising fuel prices back in the late 1970s. I remember 1979 when I was growing up in Bucks County, some of the first gas riots occurred in the Five Points section of Levittown, my hometown in southeastern Pennsylvania, and it was a very difficult time in our Nation's history, but to put things in perspective, in 1979, the price of a gallon of gas was 85 cents, which adjusted for inflation to today's numbers, that would be $2.50 a gallon, and I noticed over the weekend we are getting very close now to $4 a gallon, today's numbers.

So this is a very timely hearing. This is an important hearing, and it is important, as I said, not just for family budgets and business budgets but for our National security and for, you know, not to forget the important issue of jobs in southeastern Pennsylvania, especially in this region.

So Congressman, thanks for convening the hearing and for letting us participate.

Mr. MEEHAN. Thank you, Mr. Fitzpatrick.

Other Members of the committee who are not here today but who may wish to submit opening statements, they may be submitted for the record.

[The statement of Ranking Member Higgins fllows:]

PREPARED STATEMENT OF RANKING MEMBER BRIAN HIGGINS

I would like to thank the Chairman for holding a hearing on this very important matter. This is a matter that impacts not only the Chairman's district, but also the entire Northeast, including Western New York. That is why I am very interested in today's topic and the testimony that will be presented.

Northeastern oil refineries supply about 40% of the region's gasoline, 60% of the region's Ultra Low Sulfur Diesel, and 45% of its heating oil. Replacing this region's supply demand with additional domestic and foreign imports could pose logistical challenges. I hope that testimony will indicate what these challenges are and how this region can handle them. Further, will these challenges cause the price of gasoline and heating oil products to increase?

What are the other options for getting oil to this area? Are the ports in this area equipped to both handle crude oil? Are any nearby ports able to handle waterborne oil products? Even if there are ports that can handle waterborne oil products, will there be an ability to inject oil into the pipelines used by the refineries?

Furthermore, we also need to look at the security issues involved in relying on cargo ships and pipelines to supply oil to this region. We know that before his death, Osama Bin Laden asked al-Qaeda operatives to target pipelines, oil tankers, and dams in the United States. Since bin Laden's death, however, is this still a threat? What exactly are the Department of Homeland Security and the Department of Transportation doing to ensure that these pipelines are not vulnerable to terrorist attacks?

In addition to terrorist attacks, what are the Department of Homeland Security and the Department of Transportation doing to ensure that in the event of a natural disaster, oil will reach the Northeast if the Pennsylvania refineries are closed? After Hurricanes Katrina and Rita, we witnessed just how vulnerable these pipelines can be. We need to know how to be prepared in the event of a natural disaster.

All in all, we also need to realize the reality of this situation. There are ordinary, everyday people involved in these decisions to close the refineries. Not only will the closures affect the thousands of people that work in this area, but also the closures will affect the people of the Northeastern region. The people that want to drive or heat their homes this fall. However, according to the Energy Information Administration, until companies know whether or not the Sunoco plant will close they are not planning to make significant investments in new logistical arrangements. Not having logistical arrangements in place could yield dire consequences for this region.

Mr. Chairman, I would like to reiterate that this is not just a local issue. This is an issue that reaches far beyond Pennsylvania. I look forward to receiving testimony that will address how we will deal with the reality of these oil refinery closures, and how this will impact our security.

Mr. MEEHAN. In addition, the United Steel Workers have asked whether they can submit testimony for the record, and without objection, that is so ordered.*

So we are pleased today to have two panels that we will be hearing from. The first panel has witnesses before us today who bring expertise from their service on behalf of agencies within the United States Government. The first is Dr. Howard Gruenspecht, who was named Deputy Administrator for the United States Energy Information Administration in March 2003. Since July 2011, he has also served as EIA's Acting Administrator with responsibility for collecting, analyzing, and disseminating independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. Over the past 30 years, Dr. Gruenspecht has worked extensively on electricity policy issues including restructuring and reliability, regulations affecting motor fuels and vehicles, energy-related environmental issues, and economy-wide energy modeling. Before joining EIA, Dr. Gruenspecht was a Resident Scholar at Resources for the Future. From 1993 to 2000, he served as the Director of Economic, Electricity, and Natural Gas Analysis in the Department of Energy's Office of Policy. I would also like to express my personal appreciation on behalf of our entire delegation. I know that we on a couple of occasions have asked for the EIA to make available to us expeditious review of studies that would give us a sound basis to understand his inter-

*The information was not received at the time of publication.

pretation or the agency's interpretation of the impact of refinery closings, and I am grateful for the timely response with which the administration worked.

In addition, we have with us today Mr. Brandon Wales, who is the director of the Homeland Infrastructure Threat and Risk Analysis Center at the Department of Homeland Security. Under Mr. Wales' leadership, the center has grown to become a robust, all-hazards analytical resource for public- and private-sector partners covering the full array of risks and challenges facing the infrastructure community. Mr. Wales also oversees the Department's Advanced Modeling, Simulation, and Analysis program at the National Infrastructure Simulation and Analysis Center. Mr. Wales was asked to lead the review of the Counterterrorism and Analysis program at the National Infrastructure Simulation and Analysis Center. Mr. Wales was asked to lead the review of the Counterterrorism and Cybersecurity Mission Area during the first Quadrennial Homeland Security Review. Prior to joining the Department, Mr. Wales served as the principal national security advisor to United States Senator Jon Kyl and was a senior associate at the Washington-based Foreign Policy and National Security Think Tank.

So for both panels, we would greatly appreciate it if you would summarize your submitted testimony and do your best to keep your opening statements within the 5 minutes that are allotted under the rules. So I now recognize Dr. Gruenspecht for your testimony. Dr. Gruenspecht.

STATEMENT OF HOWARD GRUENSPECHT, ACTING ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION, DEPARTMENT OF ENERGY

Mr. GRUENSPECHT. Thank you, Mr. Chairman and Members. I appreciate the opportunity to appear before you today.

The Energy Information Administration, as you pointed out, is a statistical and analytical agency. We don't promote or take positions on policy issues, and we have independence with respect to the information and analysis we provide. Therefore, our views should not be construed as representing those of the Department or other Federal agencies.

We have been following changes in the East Coast refining market closely, as described in the reports that accompany my testimony. ConocoPhillips' Trainer and Sunoco's Marcus Hook refineries were closed during 2011 but were partially offset by the restart of PBF Energy's Delaware City refinery, which is about the same size of Trainer. HOVENSA's U.S. Virgin Islands export refinery, which supplied the East Coast, also closed in February 2012. The impacts of that closure are just beginning, but by itself, it is not expected to be a major problem.

Sunoco also announced plans to idle Sunoco Philadelphia, its remaining refinery in the Philadelphia area, in July 2012 if no buyer is found. As shown in table 1 of my testimony, again, this refinery alone represents roughly one-quarter of East Coast refining capacity as of August 2011.

As indicated in our latest report, all of these closures would create a shortfall of about 240,000 barrels per day for gasoline and

180,000 barrels per day of ultra-low-sulfur diesel, ULSD for short, by 2013 when both existing demand and expected demand growth are considered.

A new requirement in New York State that heating oil meet the ULSD specification starting in July 2012 will effectively boost Northeast ULSD demand by an estimated 70,000 barrels per day, or 20 percent on an annual basis, with the impact concentrated in the winter.

In recent years, Northeast refineries supplied about 40 percent of the gasoline, 60 percent of the ULSD, and 45 percent of the heating oil consumed in the Northeast. Product imports and receipts from refineries on the Gulf Coast made up most of the remainder, and would need to be increased to compensate for reductions in refining capacity. Extra barrels may also be brought in from the Midwest but the main problem is less defined replacement supplies and the logistics of moving them to locations in the Northeast market.

Two distinct bottlenecks bear watching. The first regards product movements from the Gulf Coast to the Northeast, whether by pipeline or water. The Colonial pipeline that delivers products from the Gulf Coast to the Northeast is at or near capacity. Under the Jones Act, waterborne shipments between U.S. ports must use U.S.-flagged vessels built in the United States and manned by U.S. crews, and the availability of such vessels for new routes is unknown.

The second constraint regards moving products from East Coast ports onto the smaller product pipelines that originate in the Philadelphia area to serve inland Pennsylvania and western New York. From a supply standpoint, ULSD will likely be the most challenging fuel to replace, reflecting the global tightness in distillate markets. Conventional and reformulated gasoline is more broadly available than ULSD but replacement volumes may still come at higher prices. If Sunoco Philadelphia refinery closes, prices would likely rise, but specific price impacts are uncertain. If parts of the region cannot be adequately supplied in the short term, prices can spike. In the longer run, we would also expect higher prices and maybe higher price volatility to result from longer supply chains, as alluded to in your opening statement. Industry participants have yet to identify a single solution that would address all of the logistical hurdles in the short term. Third parties are definitely looking into options.

Since our report was written, Sunoco has indicated that should its Philadelphia refinery be idled, its Eagle Point, New Jersey, terminal, which has been converted from a refinery, would be fully functioning at that time. The terminal would be able to bring in product from the Delaware River and deliver significant volumes into the pipelines moving inland into Pennsylvania and western New York. Sunoco has also informed us of its ability to move limited product volumes across the Marcus Hook and Philadelphia dockets into these inland systems.

In addition, the American Waterways Operators has indicated that Jones Act tankers and barges should be able to pick up extra volumes that may be needed from the Gulf Coast. We hope to learn more about this in the coming weeks.

Over the longer term, significant adjustments in East Coast and Caribbean transportation, storage, and terminal infrastructure will help cope with reduced refining capacity and accommodate longer supply lines. But these facilities will not all become immediately operational. Also, to the extent these facilities are located outside the United States and do not have the same reporting requirements as U.S. facilities, the markets will be less transparent.

The situation is evolving. Our reports have already generated further discussion and information, and we plan to continue to monitor the situation.

This concludes my testimony, Mr. Chairman and Members, and I would be happy to answer any questions you may have.

[The statement of Mr. Gruenspecht follows:]

PREPARED STATEMENT OF HOWARD GRUENSPECHT

MARCH 19, 2012

Mr. Chairman and Members of the committee, I appreciate the opportunity to appear before you today. The Energy Information Administration (EIA) is the statistical and analytical agency within the Department of Energy. EIA does not promote or take positions on policy issues, and has independence with respect to the information and analysis we provide. Our views should not be construed as representing those of the Department or other Federal agencies.

EIA has been following the changes in the East Coast market closely as described in the reports that accompany my testimony. Significant capacity serving Northeast petroleum product markets was recently idled. ConocoPhillips' Trainer and Sunoco's Marcus Hook refineries were closed during 2011, but were partially offset by the restart of PBF Energy's Delaware City refinery, which is about same size as Trainer. (Table 1) HOVENSA's U.S. Virgin Islands export refinery, which supplied the East Coast, also closed in February 2012. The impacts of that closure are just beginning, but by itself it is not expected to be a major problem for Northeast product markets.

Sunoco also announced plans to idle its remaining refinery in Philadelphia (Sunoco Philadelphia) in July 2012 if no buyer is found. This refinery represents roughly one-quarter of East Coast refining capacity as of August 2011.

As indicated in the report attached to this testimony, all these closures would create a shortfall of about 240,000 bbl/day for gasoline and 180,000 bbl/d for ultra-low-sulfur diesel (ULSD) by 2013, representing the need to both make up for lost production and meet expected demand growth. A new requirement in New York State that heating oil meet the ULSD specification starting in July 2012 will effectively boost Northeast ULSD demand by an estimated 70,000 bbl/d, or 20%, on an annual basis. Because heating demand is seasonal, the impact is concentrated in winter.

In recent years, Northeast refineries supplied about 40% of the gasoline, 60% of the ULSD, and 45% of the heating oil consumed in the Northeast. Product imports and receipts from refineries on the Gulf Coast made up most of the remainder, and would need to be increased to compensate for reductions in refining capacity. Extra barrels may also be brought in from the Midwest. But the main problem is less to find replacement supplies than the logistics of moving them to locations in the Northeast market. Logistics and transportation constraints could raise price levels and volatility if Sunoco Philadelphia is idled.

Two distinct bottlenecks bear watching. The first regards product movements from the Gulf Coast to the Northeast, whether by pipeline or water. The Colonial Pipeline that delivers products from the Gulf Coast to the Northeast is at or near capacity. Waterborne shipments within the United States require vessels meeting Jones Act requirements (U.S.-flagged vessels built in the United States and using U.S. crews). These vessels are in use and availability for new routes is unknown. The second constraint regards moving products from East Coast ports onto the smaller product pipelines that originate in the Philadelphia-area to serve inland Pennsylvania and western New York.

From a supply standpoint, ULSD will likely be the most challenging fuel to replace, reflecting the global tightness in distillate markets. Conventional and reformulated gasoline is more broadly available than ULSD, but replacement volumes may still come at higher prices.

If Sunoco Philadelphia refinery closes, prices would likely rise, but specific price impacts are uncertain. If parts of the region cannot be adequately supplied in the

short term, prices can spike. In the longer run, higher prices and higher price volatility may result from longer supply chains.

Industry participants have yet to identify a single solution that would address all of the logistical hurdles in the short term. Third parties are looking into options, but are unlikely to commit large investments in new logistical arrangements until the status of Sunoco Philadelphia is known.

Since our report was written, Sunoco has indicated that should its Philadelphia refinery be idled, its Eagle Point, New Jersey, terminal (which has been converted from a refinery) would be fully functioning at that time. The terminal would be able to bring in product from the Delaware River, and deliver significant volumes into the pipelines moving inland into Pennsylvania and Western New York. Sunoco has also informed us of its ability to move some product volumes across the Marcus Hook docks into these inland systems.

In addition, the American Waterways Operators, a trade association for Jones Act vessels, has indicated that Jones Act tankers and barges should be able to pick up extra volumes that may be needed from the Gulf Coast. We hope to learn more about this in the coming weeks.

Over the longer term, significant adjustments in East Coast and Caribbean transportation, storage, and terminal infrastructure will help cope with reduced refining capacity and accommodate longer supply lines, but these facilities will not all become immediately operational. Also, to the extent these facilities are located outside the United States and do not have the same reporting requirements as U.S. facilities, the market will be less transparent.

The situation is evolving. Our report has already generated further discussion and information, and EIA will continue to monitor this situation.

This concludes my testimony, Mr. Chairman and Members of the committee. I would be happy to answer any questions you may have.

TABLE 1.—U.S. EAST COAST REFINERIES OPERATING CAPACITY

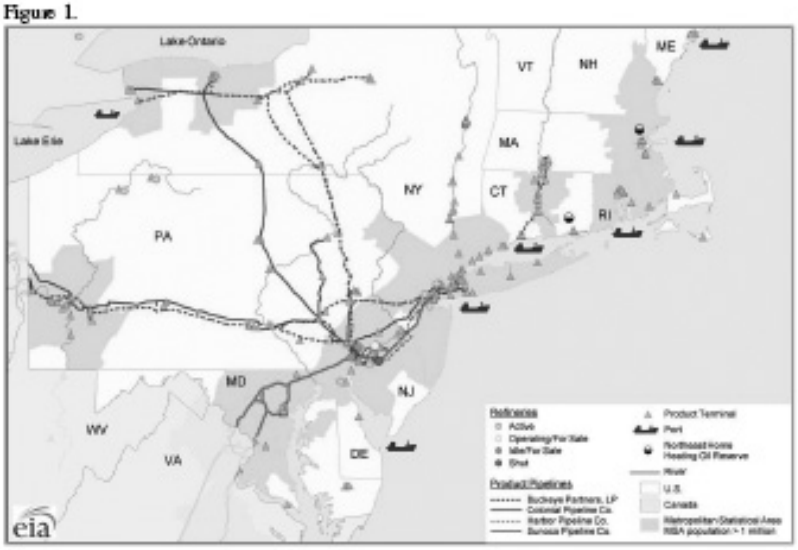
Owner	City	State	Operating Crude Unit Capacity (bbl/calendar day)	Percent of Region	Status
Operating and Idled Refineries:					
ConocoPhillips	Linden	NJ	238,000	17%	Operating.
PBF Energy Co. LLC	Delaware City	DE	182,200	13%	Operating.
PBF Energy Co. LLC	Paulsboro	NJ	160,000	12%	Operating.
United Refining Co.	Warren	PA	65,000	5%	Operating.
American Refining	Bradford	PA	10,000	1%	Operating.
Ergon-West Virginia	Newell/Congo	WV	20,000	1%	Operating.
Hess Corp.	Port Reading	NJ	[1] 0	0%	Operating.
Sunoco Inc.	Philadelphia	PA	335,000	24%	Operating, For Sale.
Sunoco Inc.	Marcus Hook	PA	178,000	13%	Idled 12/2011, For Sale.
ConocoPhillips	Trainer	PA	185,000	13%	Idled 9/2011, For Sale.
Total Operating and Idled			1,373,200	100%	
Recently Shut Refineries:					
Western Refining	Yorktown	VA	66,300		Shut 9/2010.
Sunoco Inc.	Eagle Pt/Westville	NJ	145,000		Shut 2/2010.

[1] Hess Port Reading has a production capacity of 70,000 bbl/calendar day but no crude unit capacity.

Notes: Yellow shading indicates operating refineries for sale and at risk of shutdown. Orange shading indicates idled refineries for sale and at risk of shutdown. Red shading indicates shut refineries. Total refinery capacity excludes two refineries that primarily produce asphalt, as well as the Yorktown, VA and Eagle Point refineries that were shut down in 2010.

Source: U.S. Energy Information Administration.

Figure 1.



Mr. MEEHAN. Thank you, Mr. Gruenspecht.

Now I turn to Mr. Wales. Mr. Wales, I look forward to your testimony.

STATEMENT OF BRANDON WALES, DIRECTOR, HOMELAND INFRASTRUCTURE THREAT AND RISK ANALYSIS CENTER, DEPARTMENT OF HOMELAND SECURITY

Mr. WALES. Thank you, Chairman Meehan and distinguished Members of Congress, for inviting me to address the issue of refinery closures in the Mid-Atlantic Region. The availability of refined petroleum products is an important issue for the Department of Homeland Security, and I appreciate the opportunity to discuss this with you.

I am the Director, as you stated, of the Homeland Infrastructure Threat and Risk Analysis Center, known as HITRAC, which is charged with analyzing risks to the Nation's critical infrastructure from threats and hazards both natural and man-made. As you know, in the last 6 months, two Philadelphia-area refineries have ceased production, and the third refinery in the region announced that it will close by July if a buyer is not found. These refineries represent 50 percent of the region's refining capacity, but a simple examination of these refineries does not tell the complete story as there are other sources of refined product for the region including the Colonial pipeline system, which moves refined product from refineries on the Gulf Coast to cities on the eastern seaboard. Additionally, major East Coast ports receive refined product from various points in Europe and the Gulf Coast.

At HITRAC, we have examined whether the loss of capacity represented by the closing of the Mid-Atlantic refineries significantly affects the resilience of regional or National petroleum supply system. In other words: Is there sufficient capacity to supply the East

Coast with refined petroleum products? HITRAC's initial analysis shows that the refinery closures should not have homeland security impacts due to this loss of supply.

In order to put our analysis into context, it is important to understand HITRAC's role in supporting the Homeland Security mission. HITRAC serves as the analytic arm of the Department's Office of Infrastructure Protection and provides strategic, operational, and tactical analysis to our public- and private-sector partners so that they can make more-informed decisions regarding the management of risk. Our work supports homeland security-related exercises, training activities, contingency and security planning, and response to real-world incidents that affect the Nation's infrastructure. Modeling complex real-world systems such as the petroleum network underpins all of the analysis performed by HITRAC.

A massive and complex network of refineries, transmission pipelines, tank farms, and terminals produce and deliver refined petroleum products. Because the network is so interconnected, interruption of any of these components could cascade into other parts of the system causing imbalances and shortages. However, the system is dynamic. In the event of a disruption in one part of a pipeline network, for example, flow can sometimes be diverted to functioning pipelines or production can be surged at another refinery while consumers respond to shortages and resulting price increases by limiting consumption.

Because of the significant role that petroleum plays in our economy, HITRAC has undertaken a number of capability development efforts to better understand the domestic and international fuel supply. In 2011, for example, we completed a model of the National transportation fuel system, which helps analysts estimate the effects from damage or disruption to components of this system.

In examining the potential implications of the closure of the Marcus Hook and Trainer refineries, and the planned closure of Sunoco's Philadelphia refinery, HITRAC executed a simplified analysis of these closures. Initial analysis suggests the closure of these three refineries will have a negligible impact on the overall availability of refined petroleum product in the supply chain. Additional refined product moving through the Colonial and Plantation pipelines from spare capacity at refineries in Texas, Louisiana, and other locations in the Gulf Coast is in sufficient supply to meet demand.

HITRAC also tested our analysis against a major hurricane disrupting Gulf Coast petroleum infrastructure. Analysis there suggests that in this case, there would be supply shortages irrespective of whether the three Mid-Atlantic refineries operate, though those shortages would appear no farther north than Washington, DC. These types of effects were witnessed in the aftermath of Hurricanes Katrina and Rita, where elevated gas prices were seen in cities like Atlanta. The Northeast does have sufficient refined petroleum product in terminals, tankers, and the supplies from Europe to mitigate the hurricane's impact.

I would like to make an important caveat. Our analysis focuses on refined product as a whole rather than on individual products. As such, local supply and storage of individual fuels and distillates along the supply chain might lead to localized shortages not cap-

tured in the aggregate. The model does not give any insight, for example, into the specific availability of low-sulfur heating oil, ultra-low-sulfur diesel, or gasoline with additives for particular cities. These specialized products could be in short supply under some conditions.

Our vision is a safe, secure, and resilient critical infrastructure based on and sustained through public-private partnerships to mitigate risks to, strengthen the protection of, and enhance the all-hazard resilience of the Nation's critical infrastructure.

Thank you for holding this important hearing, and I would be happy to respond to any questions.

[The statement of Mr. Wales follows:]

PREPARED STATEMENT OF BRANDON WALES

MARCH 19, 2012

Thank you Chairman Meehan, Ranking Member Higgins, and distinguished Members of the Subcommittee on Counterterrorism and Intelligence for inviting me to address the issue of refinery closings in the Mid-Atlantic Region. The availability of refined petroleum products is an important issue for the Department of Homeland Security (DHS), and I appreciate the opportunity to discuss this with you.

I am the director of the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC), which is charged with analyzing potential threats to, and consequences and vulnerabilities of, the Nation's critical infrastructure. Our work examines both natural disasters and terrorist threats that can disrupt critical infrastructure systems, including the petroleum fuel network, in order to improve security and enhance the resilience of these infrastructure systems.

Today, I am here to discuss DHS' views on how the planned closure of the Marcus Hook refinery might affect broader critical infrastructure resilience. In the last year, two Philadelphia-area refineries have been idled, which means they have ceased production. The first, owned by ConocoPhillips, located in Trainer, Pennsylvania, with an operating capacity of 185,000 barrels per day, was idled in September 2011 and currently remains for sale. The second, owned by Sunoco Inc., located in Marcus Hook, Pennsylvania, with a capacity of 178,000 barrels per day, was idled in December 2011. Recently, Sunoco announced plans to close a third refinery in the region, a 335,000 barrels-per-day refinery in Philadelphia, Pennsylvania, if no buyer is found by July 2012. These three refineries represent 50 percent of the region's refining capacity. Coupled with the closing of other refineries in the region (Western Refining in Yorktown, Virginia, at a capacity of 66,300 barrels per day, shut down in September 2010; Sunoco Inc., Westville, New Jersey, at a capacity of 145,000 barrels per day, shut down in February 2010) and refineries that supply the region (HOVENSA LLC, St Croix, U.S. Virgin Islands, at a capacity of 335,000 barrels per day, shut down in February 2012) a significant portion of the region's ability to produce refined product will be shuttered.

A simple examination of refineries does not tell the complete story, however, as there are other sources of refined product for the region. These include the Colonial and Plantation pipeline systems, which move refined product from refineries on the U.S. Gulf Coast to cities on the eastern seaboard. In addition, the major East Coast ports receive refined product via tanker from various points in Europe and via barge from U.S. Gulf Coast refineries using the Intracoastal Waterway.[1]

At HITRAC, we have examined whether the loss of capacity represented by the closing of the Mid-Atlantic refineries significantly affects the resilience of the regional or national petroleum supply system. In other words, is there sufficient capacity to supply the East Coast with refined petroleum products? HITRAC's initial analysis, which included analyzing a major disruption of refineries in Louisiana coupled with the closure of the Bayway Refinery in Linden, NJ, for an unspecified reason, shows that the closing of Sunoco's Marcus Hook refinery, combined with the closing of Sunoco's Philadelphia and ConocoPhillips Trainer refineries should not result in shortages of refined products as a whole, in the Northeast or elsewhere.

[1] For additional analysis, see U.S. Energy Information Administration, "Potential Impacts of Reductions in Refinery Activity on Northeast Petroleum Product Markets," February 2012, at *http://www.eia.gov/analysis/petroleum/nerefining/update/pdf/neprodmkts.pdf,* accessed March 7, 2012.

Before presenting our analysis and conclusion, I would like to make an important caveat. The model focuses on refined products as a whole rather than on individual products. For example, the model does not give any insight into the specific availability of low sulfur heating oil, ultra-low sulfur diesel, or gasoline with additives for particular cities. The focus of this analysis is the availability in the Northeast of refined products in the aggregate to meet overall energy needs. The availability of these energy sources constitute the potential National security issue that may arise due to the idling of the three Philadelphia area refineries. The fact that the model does not indicate the availability of all grades of fuel limits its utility for a more detailed analysis of potential economic impacts, but not for identifying National security concerns.

The Energy Information Administration has analyzed energy market implications of the situation in detail in its February 2012 report "Potential Impact of Reduction in Refinery Activity on Northeast Petroleum Product Markets." In contrast to the HITRAC analysis, that report did explore the potential impacts of the Philadelphia refinery closures on individual products such as ultra-low sulfur diesel, and discussed a range of specific logistical challenges associated with moving replacement products into certain areas of Pennsylvania and New York.

ORGANIZATION OVERVIEW

In order to put our analysis in context, it is important to understand HITRAC's role in risk mitigation, consequence analysis, and the building of resilience in critical infrastructure. Within the DHS National Protection and Programs Directorate (NPPD), the Office of Infrastructure Protection (IP) is responsible for leading and coordinating the National effort to strengthen the protection and enhance the resilience of critical infrastructure.

HITRAC serves as the analytic arm of IP and provides timely strategic, operational, and tactical analysis to our public- and private-sector partners so that they can make more informed decisions regarding the management of risk. HITRAC's analytic products provide actionable information to stakeholders and decision makers at DHS; partner agencies in Federal Government; State, local, Tribal, and territorial governments; and the private sector. Our work supports homeland security-related exercises, training activities, security and contingency planning, and response to real-world incidents that affect the Nation's critical infrastructure.

HITRAC also manages the National Infrastructure Simulation and Analysis Center (NISAC), which was created by Congress to be the "source of national competence to address critical infrastructure protection and continuity."[2] NISAC is a partnership between Los Alamos National Laboratory and Sandia National Laboratories that brings together the laboratories' expertise in modeling, simulation, and analysis to problems of system vulnerability and consequence analysis.

Through the work of analysts and modelers at NISAC, HITRAC is able to provide decision makers with high caliber analysis of infrastructure failures and disruptions and accurate representations of how those disruptions propagate from one infrastructure to another.

HITRAC ANALYSIS

In the past 2 years, HITRAC has provided support to decision makers during a wide variety of real-world incidents, including flooding in the Midwest, Hurricane Irene, the Japanese earthquake and ensuing risks of tsunami and radiation fallout, wildfires in the Southwest, earthquakes in Peru and Haiti, and industrial accidents including the BP Oil Spill. HITRAC analytic products associated with these supported Executive Branch decision makers as well as decision makers at the State and local level and in the private sector. Decision makers expect HITRAC to provide information on:

- Critical infrastructure in the impacted region, prioritized by importance;
- Expected length of time before electric power is restored to 90% of the outage area;
- Expected economic impact of the incident;
- Cascading impacts to regions outside the direct impact area; and
- The importance of any supply-chain disruptions.

HITRAC analysts consider the direct and indirect impacts of a disruption—real or hypothetical—on population, critical infrastructure, and the economy. Additional analysis can include cascading impacts over time to a region and to the Nation as a whole. In the case of the oil, lubricant, and petroleum network, an example of direct impacts might be hurricane damage, which would force a temporary refinery

[2] Section 1016(d)(1) of the USA PATRIOT Act; Public Law 107–56; October 26, 2001.

or pipeline closure, such as when Hurricane Irene closed the Bayway Refinery in New Jersey for a few days in August 2011. Resulting temporary shortages of oil or petroleum products in other regions would be considered indirect impacts. Shortages, in turn, would drive up prices so that supply could meet demand and could affect companies or operations heavily dependent on these products. A further impact might be seen in the regional or National economy. I should note that we do not always see indirect impacts, and did not in the case of the Bayway closure.

The crude oil and petroleum product network forms a complex and integrated supply chain, which is global in its scope. Supply-chain analysis examines the ways individual firms make operational decisions in response to disruptions, including how they purchase goods, produce products, sell them in markets, and ship them via different modes of transportation. Disruptions within these chains can affect the ability of some infrastructure entities to provide their products or service to the population. Foreign facilities and foreign sources of materials are of particular concern because they are farther away, are outside of U.S. Federal assistance, and may be more prone to disruption than domestic sources and facilities.

PRIOR PETROLEUM INDUSTRY ANALYSIS

A massive and complex network of refineries, transmission pipelines, tank farms, and terminals produces and delivers refined petroleum products in the United States. Because the network is so interconnected, interruption of any of these components can quickly cascade into other parts of the system, causing imbalances and shortages. However, the system is also dynamic: Companies and consumers make decisions as conditions change. For example, in the event of a disruption in one part of the pipeline network, flow can sometimes be diverted to functioning pipelines or production can be surged at another refinery, and imports can increase, while consumers can respond to shortages and resulting price increases by limiting consumption.

Because of the significant role that petroleum plays in our economy, we have undertaken a number of capability development efforts to better understand the domestic and international oil markets. As an example, in 2011 we completed a model of the National transportation fuel system. This dynamic model includes estimates of how corporations and individuals would respond to a disruption in some part of the petroleum system. This model is designed to help analysts estimate the availability of transportation fuel in the event that a component (e.g., refineries, pipelines, or storage tanks) of the National fuel supply chain is damaged or disrupted. In the event of an unforeseen disruption, analysts can use this model to determine:

- Which regions of the United States will experience shortages of transportation fuel, given the specific disruption to one or more components of the fuel infrastructure.
- What the duration and magnitude of the shortages will be.

MID-ATLANTIC REFINERY CLOSURE ANALYSIS

In examining potential implications of the closure of the Marcus Hook Refinery, in addition to the closure of the Trainer refinery and the planned closure of the Philadelphia refinery, HITRAC executed a simplified analysis of the potential closures. The analysis included a determination as to the availability of transportation fuels throughout the Mid-Atlantic and Northeast States. The analysis included:

- A baseline assuming that no refineries close;
- Analysis assuming that all of the specified refineries close with shortfalls made up through the Colonial Pipeline and imports from other parts of the United States and Europe; and
- Analysis assuming that a major hurricane, similar to Hurricane Katrina (2005) or Hurricane Gustav (2008), strikes Louisiana and disrupts impacted Gulf Coast refineries, associated storage terminals, and Colonial Pipeline shipments to the Mid-Atlantic and Northeast States.

The model assumed that no additional refined product supplies above normal deliveries would be available from Europe, and that all shortfalls would have to be filled domestically.

The initial analysis we conducted suggests the closure of the three refineries in the Mid-Atlantic region will have a negligible impact on the availability of refined petroleum products as a whole along the East Coast. Again, our analysis does not focus on individual products. We estimate that refined product from various sources with spare capacity will be sufficient to meet demand. This is comprised of some combination of spare capacity in Northeast and Mid-Atlantic refineries or additional refined product moving via various transportation modes from refineries in Texas, Louisiana, and other locations on the U.S. Gulf Coast.

The hurricane analysis suggests that there would be supply shortages, irrespective of whether the three Mid-Atlantic refineries operate. Montgomery, Alabama; Knoxville, Tennessee; Nashville, Tennessee; Columbus, Georgia; Bainbridge, Georgia; Augusta, Georgia; Roanoke, Virginia; and Raleigh, North Carolina would experience some unmet demand during this period. Washington, DC, would not able to meet its demand in the disruption scenarios, falling approximately 35 percent short for a period of 6 days. The analysis shows that the Northeast does have sufficient inventories of refined petroleum product, transportation capacity from unaffected domestic sources, and normal supplies from Europe and thus would not be impacted by a hurricane in this case.

It should be noted that HITRAC's initial analysis should not be misconstrued as a full study of all of the implications of these refinery closures, but it does give us a preliminary estimate of how these closures impact the Nation's fuel supplies. Should more detailed work be required, we will consult with our partners to ensure that our analysis is based upon the full expertise contained throughout the Government. Our analysis also does not cover particular blends of transportation fuels refined for certain markets or ultra-low sulfur distillates. There may be shortages of these types of products.

CONCLUSION

Our vision is a safe, secure, and resilient critical infrastructure based on and sustained through strong public and private partnerships to mitigate risks to, strengthen the protection of, and enhance the all-hazard resilience of the Nation's critical infrastructure. Thank you for holding this important hearing. I would be happy to respond to any questions you may have.

Mr. MEEHAN. Thank you, Mr. Wales. I thank both of the witnesses for their testimony, and I will recognize myself for 5 minutes of questioning.

Mr. Wales, you have suggested that there is sufficient capacity within the United States to be able to supply in the event of demands here in the Northeast the sufficient fuel for this region, appreciating that 50 percent of the refining capacity is now going to exit this region if all of these refineries close down. Is that capacity in your estimation currently solely within the United States? In other words, we have the refining capacity here within the United States?

Mr. WALES. Our assumption is that some of that capacity would be outside the United States, particularly in refineries in Europe where the Northeast may be purchasing additional supply.

Mr. MEEHAN. So in effect, what we are talking about is not just refineries in Louisiana or otherwise, we would be required now to move over and get refined product from foreign countries that would fill the current gap?

Mr. WALES. That is correct. We would assume that some of the capacity would be based on Gulf Coast refineries increasing their production, using some of their spare capacity and additional supplies we purchased from Europe.

Mr. MEEHAN. That dramatically expands the supply chain for us then as well because one of the things we have been talking about is the logistics of this situation in terms of its impact here on this region. It is one thing to get crude product that comes up to the region but we are now looking at refined product as well. Does this push the issue—what percentage of it in your estimation is going to be pushed further offshore?

Mr. WALES. We don't have an estimate for the exact percentage. I am not sure if my colleague from EIA may have a better sense of what that import may look like.

Mr. MEEHAN. Dr. Gruenspecht, do you have any opinion with respect to the implications our pushing more of the actual product needs to other parts of the country?

Mr. GRUENSPECHT. Yes. Thank you, Mr. Chairman. The United States has traditionally and the Northeast has traditionally imported product as well as crude, particularly a lot of product going into New York Harbor and some other ports as well, up and down the East Coast. What is potentially I think of interest or of concern relates to the specific parts of the Northeast that are supplied from the Philadelphia-area refineries and those are connected through a series of smaller product pipelines that originate in this area, and, you know, being able to serve a larger region easily may not consider in some sense some of the specific logistical issues associated with the way certain parts—inland Pennsylvania, western New York—have been supplied historically.

Mr. MEEHAN. I would like to follow up on those points with regard to logistics, because you mentioned in your testimony the idea that logistical challenges still have not been worked out, and one of the ways in which, as I understand it, the capacity will be realized will be to use the pipelines, particularly the Colonial pipeline, and as I have been reading on this, the Colonial pipeline is expecting at some point in time to increase the current flow some 30 barrels per day, about a third of it in the next 3 months, and then about 120,000 additional barrels per day that will flow, but at a certain point aren't we going to see a capacity in which that pipeline is maximized?

Mr. GRUENSPECHT. Yes, I would have to get back with you on the specifics. I would want to be sure to get them right. But our view of the situation has been that the Colonial is pretty tight right now because some of the same forces that—you know, some of the refineries that are at the origin point of the Colonial might be more economically competitive than some of the ones——

Mr. MEEHAN. In other words, what is going to happen is, we are looking right now at an expectation that oil can flow here but there could be demands in other parts of the country. Could there be demands in other parts of the world that would lead refined oil to be moved to another location rather than here to the Northeast?

Mr. GRUENSPECHT. Well, I think it will move here if the price is right. I don't know right for who, right for the suppliers or right for the consumers, which tend to have different perspectives on this, but, you know, our view is that supplies can flow into this region. I think limited capability right now on the long-distance product pipeline, particularly, the Colonial that serves this region, some opportunity for products to flow into marine terminals including the new marine terminal and a refinery that was closed earlier because this thing did not begin just this year. Eagle Point in New Jersey, also a Sunoco refinery, I believe that is being—well, I know that is being converted into a pretty big terminal. Again, Sunoco since our report has come out, they have been a little more open, I think, about, you know, whether that terminal will be fully operational. So there is the opportunity to bring in shipborne product into Eagle Point but again, the issue of the Jones Act tankers and other such issues arise and what the cost of those shipments would

be. So it is a pretty—I know it is a lot of detail but it is a pretty complex situation.

Mr. MEEHAN. I see my time is expired, but I would like to ask to follow-up in addition to the idea of there being a point in which we will maximize the capacity in the principal pipelines, you also mentioned that there are distribution issues sort of at the point of access here locally which the oil-refined capacity has to go down, and so would you explain that and tell me what the implications of that are?

Mr. GRUENSPECHT. Yes. There are parts of particularly Pennsylvania and New York State that are served by smaller product pipelines again that originate in this area and are tied into all of the refineries in this area and are also tied in, I think, to the Colonial pipeline, and pipelines are a very efficient way to move petroleum products, and the concern would be that if you can get the product but you can't get it into those pipelines which were originally designed to be fed by the output of the refineries in this region, then you might have a situation where more expensive means of moving product might be required and that would be reflected in the prices of product.

Mr. MEEHAN. If I can indulge in one last question, but we are also talking about pipelines, but I am seeing more discussion about reversing pipelines as we are looking at different energy resources and other kinds of things. Is it possible that any of the pipelines that we are currently anticipating to be available for the flow of the gasoline to our region or other kinds of refined products would be rerouted either in terms of their direction or would be utilized as a right-of-way, the access to that pipe would have more value for another commodity and therefore be dedicated to that?

Mr. GRUENSPECHT. As you obviously follow these matters very closely, as your question suggests, there has been talk, and there is often talk about changing the direction of pipelines. For instance, some of the pipelines that went from the Gulf Coast to feed crude oil up into the mid-continent, there is this talk about reversing those because there is significant amounts of petroleum production in the mid-continent and those are being reversed. What you may be referring to is the growth in natural gas and natural gas liquids production in Pennsylvania, and there is at least one project that I believe had talked about using an existing pipeline to move natural gas liquids from producing areas in the Marcellus throughout Pennsylvania toward the Port of Philadelphia. So that would again be a re-utilization of a pipeline. I don't know that that will come to fruition. I suspect that probably will not be immediately coming to fruition.

Mr. MEEHAN. My time is expired, and I will recognize the gentleman from Delaware, Mr. Carney.

Mr. CARNEY. Thank you, Mr. Chairman.

Dr. Gruenspecht, I would like to explore with you a little bit the economics of these petroleum markets and what in particular in those economies have affected the ability of these particular refineries to be profitable. I think you know a little bit about that, and I would like to explore what those factors are. I must say that in the several months that we have been working on this issue, I have been struggling to understand how prices of these refined products

don't seem to track the price of gasoline at the pump and of the end-users like maybe they do in other markets. Could you explain for me the dynamics of these pricing mechanisms and what has been at play here in the last year or so that have caused the problem for the profitability of these facilities? I know that is probably more than one or two issues. There are a number of issues that are in play.

There is something in our material here that shows the price of end product of gasoline at the pump that has fluctuated from a low of just under $2 in March 2009 to a high during the summer of 2008 of $4.11 to the National average today at $3.82 and up and down and around over that whole course of time. Obviously the cost associated with refining and with the extraction of petroleum from the ground doesn't fluctuate like that. I wouldn't think so. What is driving this and what has squeezed the refining piece of it? You are making faces at me.

Mr. GRUENSPECHT. I am making faces because there is no video, hopefully, but that is a pretty tough question. I am not sure. I will try but it will be hard because you could talk for hours on this and still not get to the bottom of it.

I think the factor that is most affecting the price of gasoline and other refined products is in fact the price of crude oil. The price of crude oil has been moving a lot, you know, in recent history. I think we hit a peak of like $147 a barrel in July 2008. I think it was down to about $30 a barrel by the end of that year—$35 a barrel by the end of 2008, beginning of 2009, in part as the world economy ran into some very tough situations and global demand for oil crashed. Prices have been on a roller coaster ever since, certainly began to take off at the beginning of 2011, a significant upward moving associated with some of the events surrounding the Arab Spring and certainly the Libya disruption.

Mr. CARNEY. So events that really aren't a function of cost of extraction?

Mr. GRUENSPECHT. I don't think it is a function of the cost of extraction. Costs of extraction are not changing as radically as the price——

Mr. CARNEY. Fairly consistent, wouldn't you say?

Mr. GRUENSPECHT. It varies. Cost of extraction varies across the projects. There are some places where it is relatively cheap to extract oil. Some of the more marginal places are more expensive. But I think it would be hard to sit here with a straight face and argue that the cost of extraction has been ping-ponging around.

Mr. CARNEY. It might move consistently up at some level but not up and down.

Mr. GRUENSPECHT. No, it is not moving like that. I mean, clearly what is going on is more the view of the supply-demand balance in the world which certainly the demand side is very driven by economic conditions in the world. As you know, I think the growth in oil demand in the world is really in the developing countries, not in places like the United States. In fact, our demand is perhaps falling off slowly.

Mr. CARNEY. I see my yellow light is on so let me just move to another question. So the profitability of refining really is a function

of the spread between the price of crude and the price at the pump or the price of the end-user. Is that correct?

Mr. GRUENSPECHT. In part, but I would say one of the things that has been very interesting is that different crude streams have moved in different directions—well, they don't move in different directions but the prices of different crude sources have separated a bit and I think that has been particularly difficult for the refineries in this area because they had tended to use light sweet crude oil imported from Africa and they have been at a relative competitive pressure because the refineries that they are competing with are using crude——

Mr. CARNEY. Like Delaware City.

Mr. GRUENSPECHT. Delaware City somewhat but particularly some of the refineries in Texas using heavier crude, some of the refineries in the Midwest using I guess crude that is sort of stuck in the Midwest and is sold at a discount. So I think that is——

Mr. CARNEY. It is a cheaper crude.

Mr. GRUENSPECHT. Cheaper crude selling the same product. That is very tough. If you are running a store and, you know, your inputs cost more than the inputs of your competitors, that could be very tough.

Mr. CARNEY. So the end-user—one last question if the Chairman will allow. So the end-user price, you know, one could see where the price at the pump or the price for heating oil, whatever it might be, would just track crude oil prices but that doesn't seem to be the case, so what is the differential there?

Mr. GRUENSPECHT. Again, it depends. I mean, if you were in the Rockies now, your gasoline price is lower than in other parts of the country, in part because their crude is cheap. But if you are receiving products from refiners in a variety of different places, as the East Coast does, then it is going to be the most expensive refiner that serves the area that is going to set the price in that region, and the refiners who have access to lower-cost crude are going to make higher profits.

Mr. CARNEY. One of the concerns I have had all along is the fact that some of these factors may be temporary conditions and yet we are looking at a permanent shutdown, if you will, that would have long-term effects when those price differentials are going to fluctuate over time and it causes me considerable heartburn. I thank you, Mr. Chairman.

Mr. MEEHAN. Thank you, Mr. Carney. The Chairman now recognizes the gentleman from Bucks County, Mr. Fitzpatrick.

Mr. FITZPATRICK. Thank you, Mr. Chairman.

Dr. Gruenspecht, how great a price impact would you foresee your predicted ultra-low-sulfur diesel shortfall have on, say, the price of home heating oil or diesel for trucks or other vehicles?

Mr. GRUENSPECHT. Again, I think it really does remain to be seen. If in fact, if you look at the differentials between ultra-low-sulfur diesel in various markets, the East Coast has traditionally been cheaper than some of the markets we would need to attract supply from should Sunoco Philadelphia close, so there might be a few cents there. Again, there are some questions associated with the logistics of transportation, which may be the larger issue in getting it to the specific locations, particularly the inland locations.

So we did not hazard a guess as to what might happen. I mean, there can be localized shortages, and when you get localized shortages, you get localized price spikes, but we are not smart enough to project, you know, when those might occur, if they will occur, and where they might be. Perhaps my colleague at Homeland Security could take that one on. I don't think he wants to.

Mr. FITZPATRICK. Do you care to comment, Mr. Wales?

Mr. WALES. We generally don't look from our perspective at individual products in markets and the effect on prices. You know, it is really an issue for an independent group like EIA to kind of evaluate the market conditions. Our primary concern as I described during my testimony is can a region have enough product, and in particular, can they have enough product even if it is not necessarily the product that they want or that they need. So in some cases, we have seen in the past during natural hazards like hurricanes where EPA waives certain rules related to fuel mixtures and additives in order to mitigate potential shortages of specific distillates or specific fuel mixtures.

Mr. FITZPATRICK. Doctor, in your testimony when you talked about moving supply from other areas, in particular, say, the Gulf up to this region, you indicated that the pipelines were at or near capacity, and in connection with potential shipping, that there were some issues including the Jones Act, which you have mentioned a couple of times. Can you expand on that a little bit about what you think the potential is for price impact to try to get the product back up here?

Mr. GRUENSPECHT. Well, it is probably hard to go beyond—you know, there are potential issues related both to some extent to getting the product here, being the Port of Philadelphia, and then the issue of getting it inland. You know, we have had some, I guess with respect to that, although it is not particularly good news essentially from the point of view of people who worked, you know, in the refineries here but there has been—we have been concerned that it would be difficult to move things into some of the smaller pipelines that Sunoco Logistics operates that move stuff west toward Pittsburgh and up into central Pennsylvania and western New York. It seems that with the Eagle Point terminal, you know, we are learning more from Sunoco Logistics and it seems that there is a pretty good capability there via those pipelines, so that is good news. There is some limited capability to move product across the docks at Marcus Hook and Philadelphia that we have become aware of. Again, those were clearly set up to receive crude oil to refine so, you know, but there is a limited capability to move product across those docks. Then, you know, the question of the shipping. We are still looking into how much capacity there is really available, you know, a question of bringing supplies in from Europe, perhaps. One could almost imagine a trade where Gulf sends distillate products to foreign markets and then foreign markets supply distillate products to the United States. You know, there is a lot of extra movement involved in that so there is probably some price impact involved, but it is really hard to tell. I would not want to give you an impression that I knew the answer when I don't.

Mr. FITZPATRICK. I appreciate your time. Thank you.

Mr. MEEHAN. Thank you, Mr. Fitzpatrick.

I just have a couple of follow-up questions for the panelists, and I will certainly invite my colleagues if they have a follow-up question or two to ask it as well. Dr. Gruenspecht and Mr. Wales, both of you had testified that the price of crude oil was really the thing that affected cost the most, the actual cost here, but we have recently begun to see the development of new oil resources in North Dakota, among other places, and certainly access to Canadian oil. You testified, Mr. Wales, that we have sufficient capacity right now, refining capacity. In fact, my recollection from your written testimony is we have excess capacity here in the country, even if we were to lose these refineries in the East. But would that change if in fact we fully developed and exploited the opportunities that exist in North Dakota and some of the other places right here in the continental United States? Do we have enough refining capacity to be able to handle the opportunity that has been realized by these new oil finds?

Mr. WALES. We have not explored the issue of the capacity of the markets to respond to future growth in crude oil exploration and production. My colleague may have looked into that issue more than we have.

Mr. MEEHAN. Dr. Gruenspecht, have you looked at that issue?

Mr. GRUENSPECHT. We have looked at it, I would say broadly. You know, one of the questions or issues is the level of demand in the United States for petroleum for what we call liquid fuels because increasingly what we use as gasoline actually almost universally across the country now contains 10 percent ethanol and could contain more ethanol. That reduces the demand for the components that come out of the refinery. It is also the case that the country has, you know, increasing fuel economy standards for new vehicles, which many people, you know—and I wouldn't take a position on it because I don't have to, but many people, you know, view that as a very good thing. That also affects the future demand for petroleum products. So the United States really for the first time in the last 60 years, in 2011 we were actually a net exporter of petroleum products, which is very unusual. I mean, we were bringing—you know, 5 or 6 years ago, we were bringing tremendous amounts of petroleum products into the country. We still do bring tremendous amounts of petroleum products in but we are sending a lot of petroleum products to South America, to other markets. Again, the refineries that are doing this are primarily the ones that have access to the advantaged crews like the ones on the Gulf Coast.

Mr. MEEHAN. Well, my recollection is that 90 percent of the oil that we refine here is imported while some of it in the United States the overall we get oil from, you know, within. When I say exported, I mean imported. It could be imported from Canada and Mexico as well, not necessarily imported from Europe and Asia. But my concern is, if we push this further off into India and places like that, we are creating, Mr. Wales, not only just a need now in which our National security is related to stability over in those nations for crude oil but in addition, we are now needing stability not just for crude oil but also for refining capacity. So it is not just getting the oil over here but their refineries have to be operating, which is the frustrating thing to me that we are shutting them down here and watching expansion in India. Have you calculated

the potential impact if we have instability in some of those foreign markets about what would happen here?

Mr. WALES. Congressman, we have not yet conducted analysis like that. I think part of that reflects the fact that to date, we haven't seen disruptions to that part of the supply chain and it reflects that the market is not yet fully mature in terms of how it will all shake out, where we will likely get more of our supplies. As we get more of that information, we will start rolling that into our analysis. We can better understand what a more mature oil and gas supply chain is for the United States and how it would actually affect our homeland and National security.

Mr. MEEHAN. Well, just a follow-up question and the last question with respect to this area, but I do—I mean, this committee deals with the issue of terrorism, and one of the great concerns that we have is the vulnerability of pipelines and other kinds of systems, you know, other kinds of assets within the network from refineries to transmission pipeline to tank farms and terminals to the most vulnerable presumably among them, pipelines themselves, and we know, I mean, just historically, I just did sort of a quick off the back of the cuff look just going through January 2006, we had a jihadist website that linked al-Qaeda that encouraged attacks on the United States pipelines. That was in January 2006. In June 2007, the jet fuel pipelines at JFK were targeted and attacked. In July and September 2007, we had the Mexican rebels detonated bombs along the pipelines along the Mexican coast. In November 2007, we had a United States citizen that was convicted of trying to conspire to blow up a pipeline from here in the middle district of Pennsylvania. We had testimony earlier this morning that bin Laden in Abbottabad had created an identification of pipelines as one of the principal targets. What is the vulnerability that we have to the sureness of supply here if a pipeline like the pipeline that is servicing us that will be used as the substitute to serve the capacity here can be impacted? Can it be impacted and will it have a downstream implication for our region?

Mr. WALES. Congressman, you are raising an excellent issue. I would like to talk about that for a couple of minutes because it is something that the Office of Infrastructure Protection had spent a lot of time on over the past several years, in one case, because of the potential threat posed by international terrorist groups to the oil and gas infrastructure of the country and because of the criticality of pipelines to the overall economy.

Over the past several years, the Office of Infrastructure Protection has conducted over 60 vulnerability assessments on pipeline infrastructure throughout the country. In some cases, in conjunction with that, we have conducted over 80 buffer-zone protection plans. That is, working with State and locals and the private sector on integrated planning related to the security and resilience of those pipelines, and as part of those buffer-zone plans have given out over $10 million in grant funds to local communities to execute the planning and improve security around pipelines.

In addition, during the fiscal years of 2012 and 2013, the Office of Infrastructure Protection will be executing a regional resiliency assessment of the Colonial and Plantation pipelines because they are a real critical artery in our overall energy infrastructure on the

East Coast and in some cases because of the closing of these refineries they are becoming even more critical. We would say that part of that regional resiliency assessment will have us conducting detailed assessments of various critical chokepoints along those pipelines both hydraulically critical pumping stations as well as control centers and others. We will be conducting analysis to better understand how disruptions of the Colonial pipeline and Plantation pipeline could affect the broader critical infrastructure questions. We will be working with customers of the Colonial pipeline as well as with some of the infrastructure that the Colonial pipeline depends upon, for example, electric infrastructure that may be critical to operating the pumping stations and terminals along its stretch. So this is an issue that we are taking very seriously and it is an issue that we are going to continue to work on, and we would be happy to come back and brief you and your staff on our plan for the Colonial and Plantation pipelines and our results as they materialize.

I will say that our initial work over the past couple years looking at things like the Colonial pipeline shows that they are very critical but they are pretty resilient in terms of bouncing back and being able to repair damage to pipelines very quickly. Our primary concern would be a prolonged damage to the pipeline that kept it down for more than a week, more than 2 weeks. I think, you know, once you start getting beyond a week or 2, the ability for the excess inventory and terminals along its route starts to be diminished and then you could start to have more serious impacts, but we would be happy to come provide further information on that.

Mr. MEEHAN. Well, I am grateful for your efforts in that area, and I would ask if you could, you can appreciate the implications of that study, that we are sort of currently dealing with the questions of what will happen if we lose this refining capacity. That pipeline is not going to be quite so significant to us in the event that we continue to have refining capacity in this region, but if we lose that refining capacity, it is going to be a critical link. So the vulnerability ties right into the most energy-dependent sector in the entire Nation and I imagine the implications for that, particularly during a particular season, a heating season, and, you know, the Pennsylvania, New York, New England area would have remarkable implications not only to people but to our economy as well. So anything that could be done to expedite that among the many priorities you have would be greatly appreciated by this panel and by our region. So thank you, Mr. Wales.

I will turn to my colleague, Mr. Carney.

Mr. CARNEY. Thank you, Mr. Meehan. I think you have identified the main homeland security risk with respect to the concentration of refining capacity here in the United States, and it is hard for me to imagine that our homeland security is not threatened in some way by that, by concentrating the facilities that will deliver refined products or petroleum products to regions in the country as opposed to having a more distributed network.

In addition, the discussion this morning has centered around the off-shoring frankly of refining capacity, which would then make the United States, in my opinion, less independent, less energy-independent and more at risk to overseas attacks on whatever facilities. I appreciate the fact that you are going to do an analysis of those

pipelines in particular because it seems to me that it is a little bit hard to wrap my head around the fact that Dr. Gruenspecht has indicated that the Colonial pipeline is near capacity and we are going to be relying on it to move product here to our region, that that won't have a negative impact. But setting that aside, will your study include the risks associated with relying more on refined product coming from overseas where facilities in other parts of the world that we can't protect, so to speak, are at risk?

Mr. WALES. Sir, the study that I was discussing in response to the Chairman's question was really focused on the resilience of those pipelines, Colonial and Plantation. It wasn't a more expansive study looking at the risks associated with the global——

Mr. CARNEY. So it might be important for somebody to take a look at that question, particularly as it relates—as the Chairman has said, you know, this is a decision that is coming at us pretty quickly. Two of the refineries have already closed. So we are talking about long-term implications of our own energy independence as a Nation as well as the security of that network, and it is hard for me to imagine that it is not going to be a greater risk. It is a little disturbing to hear, Dr. Gruenspecht, that a lot of these facilities are basically taking domestic supplies and exporting refined products in a world where we are importing such a big part of our petroleum needs, that the market drives certain of these products overseas. In fact, my understanding is, a lot of those refined products out of the Gulf Coast are for export. Is that accurate?

Mr. GRUENSPECHT. We have been exporting increasing amounts of product from the Gulf Coast. Obviously the Gulf Coast also is a major source of supply to other parts of the country. It is the major refining center in the country. Roughly half of the refining capacity in the country is on the Gulf Coast.

Mr. CARNEY. So at a time when we are putting in policies that are having negative implications for our demand for end-products, i.e., the use of ethanol and other biofuels, to help the Nation be more energy-independent, because of the way the markets work, we are still exporting product, which is making us less independent. Is that a fair statement?

Mr. GRUENSPECHT. I think we are exporting products. You know, I mean——

Mr. CARNEY. Whether it makes us more independent is——

Mr. GRUENSPECHT. I don't know the——

Mr. CARNEY. Well, let me give you a real——

Mr. GRUENSPECHT. We import airplanes and we export airplanes.

Mr. CARNEY. Let me give you a real-world example of where this is in operation around the world. One of the biggest threats that we face in the world right now is the threat of a nuclear-armed Iran, and one of the actions that we have taken in the Congress is to impose sanctions on Iran, which have been putting significant pressure, economic pressures on the country. One of those sanctions is to attack their need for refined petroleum products because they don't have refining capacity in the country, and it is having devastating impacts. Can't you just flip that around? Obviously it is not a comparable situation but it is the same kind of risk, is it not, Dr. Gruenspecht?

Mr. GRUENSPECHT. There is no question that Iran is short on gasoline and that sanctions on providing gasoline to Iran have had an impact on their——

Mr. CARNEY. So the question really is: Are we setting ourselves up for that same kind of vulnerability?

Mr. GRUENSPECHT. I guess it is possible but—yes, I guess the concern is—again, it is a hard question to answer but if some of our capacity is turning out not to be economically competitive, then there is a cost in terms of maintaining it, so it is a very tough question.

Mr. CARNEY. The question is: What do you do?

Mr. GRUENSPECHT. What do you do, right, and that is more for the policymakers.

Mr. CARNEY. Thank you.

Mr. MEEHAN. Well, thank you, Mr. Carney, and I want to thank our two original panelists for their testimony. The Members of the committee may have some additional questions for the witnesses, and if they do and if they are submitted to you, I ask that you will respond in writing within 10 days. So I want to dismiss this panel. I thank you for your preparation and your participation by both gentlemen. We are grateful for the attention you have paid to these issues and for your continuing work and effort in helping us to better understand, and I hope we can count on your continued diligence and attention because as Mr. Carney pointed, the very implications, the decisions that are being made in theory have real-time implications to this community because people are making decisions today based on their assessments of the overall market, and those decisions impact people's lives, people's jobs, and this community. Thank you for the work that you have done and will continue to do.

I now at this point in time would like to call to the chair Mr. Drevna and Mr. Robert Greco. Mr. Greco and Mr. Drevna, we are going to take about a 3-minute break. Mr. Carney has a question he wants to ask somebody, and we will hold for a moment. Thank you.

[Recess.]

Mr. MEEHAN. The committee will now reconvene. I would like to recognize the two additional witnesses that we have before the committee today. Mr. Fitzpatrick, I am grateful for his participation this morning. Mr. Fitzpatrick has to participate in his own hearing in Washington, DC, later on today, and I am grateful for him taking the time to be with us for the first half of the hearing this morning, and I will be joined by Mr. Carney for this final panel.

First, let me introduce to you Mr. Charles Drevna. He has been the president of the American Fuel and Petrochemical Manufacturing Trade Association since 2007. He joined the association in 2002 as executive vice president and director of Policy and Planning. Mr. Drevna has worked with the executive committee, board of directors, and staff to implement a rebranding effort that emphasizes the way association members serve American consumers and increase America's economic and National security. Before joining the association, Mr. Drevna had multiple positions focused on United States energy production including the director of State and

Federal Government Relations for Tosco, the director of Government Regulatory Affairs for Oxygenated Fuels Association, the vice president at the Jefferson Waterman international consulting firm, the director of Environmental Affairs for the National Coal Association, and the supervisor of Environmental Quality Control for the Consolidated Coal Company.

I would like to also recognize Mr. Robert Greco. Mr. Greco is the group director for Downstream and Industry Operations at the American Petroleum Institute where he is responsible for managing oil and natural gas issues pertaining to exploration, production, marine, and related industry operations. Prior to his ascension to group director, Mr. Greco served as the American Petroleum Institute's director for Policy Analysis. During his more than 20-year career at the American Petroleum Institute, he also served as the director of Global Climate Programs and as the director of Marine Transportation Segment. Before joining the American Petroleum Institute, Mr. Greco was an environmental engineer with the United States Environmental Protection Agency with expertise in automotive emission control technologies.

For each of the panelists, once again I would appreciate if you would summarize your submitted testimony and do your best to keep your statements within the time allotted. So I now recognize Mr. Drevna for your testimony.

STATEMENT OF CHARLES DREVNA, PRESIDENT, AMERICAN FUEL AND PETROCHEMICAL MANUFACTURERS

Mr. DREVNA. Chairman Meehan and Congressman Carney, thank you for giving me the chance to testify here at the hearing today.

I am Charlie Drevna. I am President of AFPM. Until recently, we were the National Petrochemical and Refiners Association. We represent high-tech American manufacturers who use oil and natural gas to make almost all the fuels, heating oil, and petrochemicals used in our Nation. In total, we represent over 98 percent of U.S. refining capacity as an industry.

Our industry is a very competitive business. Our members not only compete with each other but with foreign refiners who are able to competitively sell finished petroleum products to areas in the United States. The increased competition, market and regulatory costs coupled with the decreased demand have created significant challenges for refiners throughout the country. The effects of such challenges have been seen first-hand here in the Northeast.

So the question is: Why, and what can we do about it? Well, as I mentioned, the high cost of crude oil, the struggling economy, foreign competition, new Government regulations, uncertainty about future Government regulations and U.S. monetary policy have all been factors in the refinery closures. Just on one example, the U.S. monetary policy, a May 2011 report from the Joint Economic Committee found that weakening of the dollar since 2008, which declined 14 percent, added $17.04 per barrel to the price of oil. So I think that might be able to answer some of the questions that were asked earlier about what is the difference between 2008 and now. It has been a significant global pressure. Remember, the value of oil is based on the value of the dollar.

The recent U.S. Energy Information Administration report notes that the refinery closures leave the Northeast dependent on imports from outside of the region. Some of this supply can be replaced by refineries in the United States. However, EIA notes that significant logistical challenges make it difficult to get finished product, finished petroleum products to the Northeast. Such challenges could eventually lead to supply disruptions and increase our need to import gasoline from Europe and Asian markets, most notably, India.

The United States must work to ensure that it has the critical refining infrastructure necessary to not only produce the fuels that this country needs but could get them where they need to go. The erosion of such infrastructure raises the same energy concerns that we have with crude oil. Government policy debates often focus on our heavy reliance on crude oil imports. We don't want a similar trend to occur in relation to finished petroleum products. The fact that the EIA notes a significant portion of the new supply to the Northeast could come from Europe and Asia highlights the fact that U.S. refineries, especially here in the Northeast, is becoming less competitive in the global market.

Given the critical nature of petroleum-based fuels to our economy, the competitiveness of our domestic refining assets is certainly an important energy security issue, but there is also a homeland security issue too, and it is these good people sitting behind me. We need to keep people working in this country. That is a National security issue. We have to do everything we can jointly to work together to figure a way out of this and work on policies that make us stronger, not weaker.

So the technological advancements in developing unconventional crude from shale plays like Utica, Bakken, and Eagle Ford can significantly increase light sweet crudes available to Northeast refiners.

Again, going back to some of the Q&A from the first panel, these refineries that are closing have to use the Brent crude. They have to use light sweet crude. They are not capable as some of the refineries in the Midwest and in the Gulf Coast of using a wider array of crude oil, and again, if you go back to 2008 where the price of crude went to $147 a barrel, all crudes went up accordingly. Here in 2011, 2012, we have seen the price of Brent, because of what we talked about earlier, all the unrest and the global demand, other crudes haven't gone up as much. Therefore, the Midwest and the Gulf Coast are much more competitive in the global market.

So these policy decisions regarding shale production need to encourage the development of infrastructure that will facilitate greater access to these crudes. Additionally, our regulatory structure needs to be realigned to mitigate some of the overly costly and conflicting regulatory challenges American refineries face.

If I may go over another 15 seconds, and I hope we can get into this more, Congressman, you talked about the renewable fuels and the Energy Independence and Security Act of 2007, it is hurting American refiners. It is hurting employment in these refineries and it is not doing anything to help National security. We have got better ways to do it, and I hope we can talk about that in Q&A too.

Thank you for your time, and I look forward to your questions.

[The statement of Mr. Drevna follows:]

PREPARED STATEMENT OF CHARLES DREVNA

MARCH 19, 2012

I. INTRODUCTION

Chairman Meehan, Ranking Member Higgins, and Members of the subcommittee, thank you for giving me the opportunity to testify at today's hearing on the implications of refinery closures for U.S. homeland security and critical infrastructure safety. I'm Charlie Drevna and I serve as president of AFPM, the American Fuel & Petrochemical Manufacturers.

AFPM is a 110-year-old trade association that was known as the National Petrochemical & Refiners Association until earlier this year. Our association represents high-tech American manufacturers that use oil and natural gas liquids as raw materials to make virtually the entire U.S. supply of gasoline, diesel, jet fuel, other fuels, and home heating oil, as well as the petrochemicals used as building blocks for thousands of vital products in daily life. Most of our members do not have any crude oil and natural gas production operations. While we do not specifically represent the units of companies that explore and develop oil and natural gas reserves, our refining and petrochemical manufacturer members require a steady, secure supply of oil and natural gas, which is vital to our businesses and our Nation's economy and National security.

AFPM members make modern life possible and keep America moving and growing as we meet the needs of our Nation and local communities, strengthen economic and National security, and support 2 million American jobs. The entire oil and natural gas sector—including the producers of oil and natural gas—supports more than 9 million American jobs and pays more than $31 billion a year in taxes to the U.S. Government, plus additional funds to State and local governments. According to a recent report from the World Economic Forum/HIS CERA, the oil and gas extraction industry added 150,000 jobs in 2011—9 percent of all jobs created in the United States that year—many of which were created here in Pennsylvania.

Contrary to what one might read in the headlines, however, the refining industry is a very competitive business and our members compete not only with each other to provide the highest quality fuels at the lowest cost, but also with foreign refiners, who are able to competitively market fuels in some areas of the country. Increased competition and costs—including both market and regulatory costs—coupled with falling demand have created new challenges for American refineries. Unfortunately, the Northeast has experienced the effects of these challenges first-hand, as three Northeast refineries have closed due to a combination of the factors in the last 3 months alone. For the 2,000 employees and about 750 contractors associated with those facilities, and more than 36,000 jobs supported by the refineries economic activity including restaurants and other small businesses, these closures are a tragedy. AFPM urges Congress and the administration to ensure an overly burdensome regulatory environment does not worsen the economic situation and lead to further refinery closures, layoffs, and weakened U.S. energy security.

II. REFINING SECTOR CHALLENGES THAT ARE LEADING TO CLOSURES

High crude oil costs, a struggling economy, foreign competition, new Government regulations, and an uncertain regulatory future have created significant challenges for an already competitive refining industry and led to the announced idling and potential closure of several East Coast refineries.

The three East Coast refineries represent more than 713,000 barrels per day (b/d) of domestic refining capacity. In addition, Sunoco announced that it will have to close its 335,000 b/d Philadelphia refinery if it cannot be sold by July. In an Open Letter to the Community published as a newspaper advertisement, Sunoco President and Chief Executive Officer Brian P. MacDonald wrote: "Despite the best efforts of Sunoco's refinery employees, our Northeast refinery business has lost nearly $1 billion in the past three years." The primary factors contributing to Northeast refining closures include both market conditions and Government policies:

- *Crude Costs*.—Crude oil feedstock costs are a refiner's largest expense and not all crude oil is the same. Northeast refineries were built to use light sweet crude oil as their feedstock to manufacture fuels and other refined products. Absent a multi-billion dollar investment in new equipment and procuring the environmental permits authorizing such modifications, these refineries cannot use lower-cost sour crude, making them uncompetitive with refineries using the more affordable crude. There are many factors driving up the price of crude oil,

including global unrest, increasing demand, tightening supplies, speculation, and a weakened U.S. dollar. A May 2011 report from the Joint Economic Committee (JEC) found that the weakening of the dollar since 2008, which declined 14 percent, added $17.04 per barrel to the price of oil (Brent Crude) (Exhibit A).

- *Decreased Demand*.—Fuel demand is down in the United States. U.S. gasoline demand peaked at 9.29 million barrels per day in 2007 and is projected to decline 16 percent in the next few years. This decline in demand has created 2.4 million barrels per day of excess capacity in American refineries. Such demand drops are attributable to the recession, higher Corporate Average Fuel Economy (CAFE) Standards and the Renewable Fuel Standard (RFS). The RFS alone has displaced 10 percent of Northeast gasoline supply and nearly 10 percent of the U.S. gasoline supply. Increasing CAFE standards will likely generate an additional 13 percent reduction in demand Nation-wide, or an amount equivalent to 18 refineries.
- *Regulatory Expenditures*.—The U.S. refining sector is facing a blizzard of costly, and in some cases conflicting, regulations that threaten its competitiveness in a global marketplace. Many of these regulations carry little environmental benefit. A Department of Energy report issued in March 2011 concluded that the cumulative burden of Federal regulations was a significant factor in the closure of 66 petroleum refineries in the United States in the past 20 years (Exhibit B). The impact of regulations will be discussed in more detail later on in this testimony.

In a recent report, the U.S. Energy Information Administration (EIA) notes that these refinery closures will leave the Northeast and other parts of the East Coast dependent on refined product imports from outside of the region. Some of this lost supply could be replaced by refineries in other regions, since there actually is more than ample supply of finished petroleum products in the United States. However, EIA notes significant logistical challenges pose sizeable hurdles to getting finished petroleum products to the Northeast. Such a reality could create supply disruptions and require increased imports from Europe and Asia, "notably India."

Gasoline supply in the midcontinent faces a different set of factors. New oil discoveries on private lands in the Bakken region spanning North Dakota and Montana have provided midcontinent fuel manufacturers with a more affordable (but still expensive) source of crude oil. Lack of port access or infrastructure throughout the region can also somewhat mitigate the threat of foreign competition.

Compared to the rest of the Nation, consumers in the midcontinent area have actually benefitted from this abundant crude supply, experiencing gasoline prices much lower than the National average in many States (see Exhibit C). However, these costs are still high and the region is also not without its challenges. The rapid expansion in regional crude oil production has actually created a bottleneck in the region's main crude oil distribution point of Cushing, Oklahoma. This bottleneck has made the actual crude oil slightly less expensive for refiners in this region, but the bottleneck has created a lack of pipeline capacity needed to get the oil out of the distribution center. Given these circumstances, crude oil has had to be sent out of Cushing via rail cars at a cost significantly higher than pipeline shipments. Such costs, as well as time lags in crude shipments, have contributed to area prices being higher than the historical average. TransCanada recently announced plans to build a portion of the Keystone XL pipeline expansion, from Cushing to the Gulf Coast. This will help alleviate some of the bottleneck in Cushing, but will be inadequate in the long term.

The market policy and infrastructure factors impacting the American fuel supply have created a high-cost environment that hampers our Nation's economic recovery and threatens our critical refining infrastructure. Unfortunately, Government overregulation is making matters even worse. Proposed new regulations and unnecessary tightening of existing standards threaten to raise energy costs for every American consumer, with little or no environmental benefit. They would also have the unintended consequence of strengthening the competitive position of foreign refineries and petrochemical manufacturers, which may lead to additional job losses for America, weaken the U.S. economy, make America more reliant on nations in unstable parts of the world for vital fuels and petrochemicals, and ultimately endanger our National security.

III. IMPACTS OF REGULATION ON AMERICAN COMPETITIVENESS

AFPM supports sound and sensible environmental and other regulations. Our members are strongly committed to clean air and water, have an outstanding record of compliance with Environmental Protection Agency and other regulations, and

have invested hundreds of billions of dollars to dramatically reduce emissions measured by EPA.

As a result of these emissions reductions by our members and by other industries, America's air today is cleaner than it has been in generations. Refiners have cut sulfur levels in gasoline by 90 percent just since 2004. We have also reduced sulfur in diesel fuel by more than 90 percent since 2005 and reduced benzene in conventional gasoline by 45 percent since 2010.

EPA data shows that total emissions of the six principal air pollutants in the United States have dropped by 57 percent since 1980 and ozone levels have decreased by 30 percent. These reductions occurred even as industrial output and the number of vehicles on the road have increased. EPA data indicates there will be continued reductions in the years ahead under regulations already in place.

Despite the substantial progress we have made in environmental stewardship under the Clean Air Act and other laws, we are concerned that EPA and other agencies have, at times, made unreasonable and often conflicting demands on our members without a full cost-benefit analysis. In particular, our members spend a great deal of capital complying with regulations that generate little to no benefit for the environment, capital that could be used to strengthen our Nation's refining infrastructure and create new American jobs.

The three recent refinery closures are, unfortunately, just the latest examples of a long-term trend. As previously mentioned, a Department of Energy report issued in March 2011 concluded that the cumulative burden of Federal regulations was a significant factor in the closure of 66 petroleum refineries in the United States in the past 20 years (Exhibit B). The manufacturers of fuels are being hit with a regulatory blizzard that poses a significant threat to both refinery operations and our Nation. Some of these regulations involve what are called Tier 3 regulations to reduce sulfur in gasoline, greenhouse gas regulations under the Clean Air Act, lengthy permitting delays, requirements under the Renewable Fuel Standard involving ethanol and other biofuels, and logistical hurdles involved with transporting fuel (such as the Jones Act) to name a few. While each of these regulations poses significant individual costs, many of these requirements conflict with one another, creating compliance issues and increasing fuel costs.

Tier 3 & CAFE

The Obama administration is considering a mandate to lower the amount of sulfur in fuels in order to achieve its greenhouse gas (GHG) tailpipe and CAFE standards, known as Tier 3 gasoline standards. The industry has been successful in reducing sulfur levels in gasoline by 90 percent since the EPA Tier 2 standard was implemented in 2004. While achieving this level of performance came at a high cost—nearly $10 billion—achieving the next additional small incremental reduction EPA is contemplating could come at a much steeper price tag with little to no environmental benefit. In fact, EPA's own data indicates air quality will continue improving under the existing Tier 2 standards. Furthermore, achieving the incremental sulfur reduction would require massive new capital investments in equipment that emits more carbon dioxide, which is in direct conflict with EPA's mission of reducing GHG. As a result of these new costs, independent analysis indicates Tier III sulfur reductions could result in a 9 to 25 cents per gallon increase in the cost of manufacturing gasoline. In addition, these costs could lead to as many as seven additional refinery closures.

Recent EPA testimony indicated the agency is considering scaling back its Tier 3 proposal to focus solely on sulfur reductions. While EPA's statement is encouraging, the tailored rule would still impose a high-cost, minimal-benefit regulatory requirement on America's already heavily regulated fuel supply. It could lead to significant domestic fuel supply reductions, higher petroleum product imports, potentially increased consumer costs, increased refinery emissions, closed U.S. refineries, and reduced energy security. As Americans struggle with high gas prices and high unemployment, EPA should not promulgate any new regulations that will exacerbate either situation.

AFPM fully supports market-driven efficiency gains for fuel economy. Consumers want more fuel-efficient vehicles, but they also want affordable vehicles. Unfortunately, Government-imposed CAFE standards are driving up the cost of vehicles and placing new demands on U.S. refiners. In particular, while auto makers are given "offramps" if standards are unachievable, refiners are nonetheless forced to make massive capital investments to produce new fuels for a fleet of vehicles that may never exist. The 2004 requirements for refiners to produce 15 parts per million (ppm) ultra low sulfur diesel (ULSD), for example, was to enable the widespread adoption of nitrogen oxides (NOx) absorbers on trucks. Ultimately, the vehicle manufacturers determined that those absorbers would not work and instead chose an

alternate technology that could function with 50 ppm sulfur fuel. Yet refiners were still required to produce 15ppm ULSD, resulting in much higher costs to achieve identical environmental benefits. Government's involvement in the fuels market always creates unintended consequences, and the impacts are felt by U.S. refiners and consumers alike.

EPA GHG Regulations

Although the Clean Air Act (CAA) was never intended to regulate global emissions of greenhouse gases (GHGs), EPA is nevertheless moving forward in regulating such emissions within the framework of this statute. The agency is proceeding with these regulations even though EPA Administrator Jackson has said several times that they will do nothing to address global concentrations of GHG emissions. In the absence of a comprehensive global approach to GHG emissions, imposing these burdens on the United States would unilaterally cripple the ability of U.S. manufacturers to compete on a world market against other nations—notably India, China, and Brazil—with less stringent environmental regulations.

EPA's regulations will encourage companies to export jobs rather than products, and in the case of fuel, force the United States to increase its dependence on imports. EIA's report on East Coast refining indicates America's competitiveness is already at risk. The report notes supply shortfalls in the Northeast are more likely to be made up through Indian imports than from other U.S. refiners due to U.S. infrastructure restraints, such as the saturated Colonial Pipeline that supplies the Northeast fuels market with products from the Gulf Coast. Overregulation is a significant factor in this threatening trend. Losing American manufacturing jobs and weakening our vital manufacturing sector will harm the American economy and American workers.

Permitting Delays

The existing permitting process delays important projects for years and significantly increases costs, oftentimes making it uneconomical to pursue new projects. The most recent victim of regulatory delay is the Keystone XL pipeline, which has been studied by Federal reviewers for more than 3 years, and which is being required by President Obama to undergo yet further study.

Getting more U.S. and Canadian oil—along with oil from North Dakota and Montana—delivered to Gulf Coast refineries via Keystone XL would add to the world oil supply and make us less reliant on oil from unstable parts of the world, increasing U.S. energy security and by extension our National security. This would help remove the uncertainty about future supplies that is a factor in the recent rise of oil prices. Unfortunately, the administration has held up approval for the pipeline for more than 3 years. After President Obama rejected approval of the full Keystone XL pipeline until a new study is completed, Canada is now investigating construction of a pipeline from oil sands deposits in Alberta to the Pacific to ship its oil to Chinese and other Asian ports. The cost of crude oil is the single largest cost for refineries, and every additional dollar our members spend on an expensive supply limited by Government's (in)action is a dollar our members cannot spend upgrading facilities to handle new types of crude or building out other infrastructure. Streamlining permitting processes and increasing domestic production are vital to keeping American refineries running and creating jobs.

General Burden of Continuously Tightening CAA and Other Environmental Regulations

The $128 billion that U.S. refiners have spent since 1990 to comply with Federal environmental regulations adds significantly to their costs of manufacturing fuel. Refiners supported, and continue to support, many of these regulations that were clearly beneficial to the environment. However, as environmental standards are tightened, often with de-minimus effects on emissions, the cost to meet those standards increases exponentially, threatening the global competitiveness of American fuel manufacturers.

Sunoco notes in its Open Letter to the Community regarding its Northeast refinery closures that environmental regulatory costs consumed approximately 15 percent of its operating budget. Similarly, over the last 10 years ConocoPhillips invested 100 percent or more of its profit into its Trainer refinery in the Philadelphia area to meet regulatory requirements before idling the refinery last year. The refinery also lost money in each of the previous 3 years. Finally, a Hovensa refinery that shut down in the U.S. Virgin Islands was located in a region that was in attainment with the Clean Air Act. EPA was nevertheless requiring the company to spend an additional $700 million replacing turbines. After losing $1.3 billion in last 3 years, the refinery could not afford the additional regulatory compliance costs and decided to instead close its doors.

Finally, there has been a great deal of attention recently on the future of electric vehicles as the "future of transportation." It was recently reported that the United States is pursuing a trade case against China over its practices related to rare earth minerals, a vital component of hybrid car batteries. The same reports note that China controls 97 percent of the world's supply of rare earth minerals. As Congress and the administration seek ways to increase our energy security, economic security, and National security, AFPM urges policymakers to weigh the full spectrum of trade-offs. While weaning the United States off oil is a good talking point, artificially forcing the market to adopt expensive new technologies that rely on the fair trade practices of China could bring a new set of challenges. In the meantime, the United States can instead develop its own abundant supply of energy, which can increase our energy, economic, and National security. The United States can do so without subsidies or mandates, all our industry needs is the room to do it. As we look to diversify our energy sources, we must not turn our back on petroleum-derived fuels that we will continue to depend upon for decades to come. To do so would simply disadvantage the consumer, harm our National economy, and erode our energy security.

IV. DOMESTIC SUPPLY DEVELOPMENTS COULD REVIVE STRUGGLING NORTHEAST REFINERIES

The increased production of domestic unconventional oil and gas, along with the growth of Canadian oil sands shipments to U.S. refiners, creates the potential for a resurgence of petroleum production and refined petroleum products throughout the United States. The technological advancements in developing these unconventional resources could, as early as 2016, increase North American output by 3 million barrels per day (mmb/d) and decrease waterborne crude imports by 4 million barrels per day (mmb/d). The increases in upstream production creates opportunities for U.S. refiners to improve the security of crude oil supplies, reduce operating costs, and increases their likelihood of being competitive in the global marketplace.

Increased access to competitively priced North American oil from unconventional domestic shale plays in areas such as Utica, as well as Williston Basin, Bakken, and Eagle Ford, could increase access to light sweet crude oils for Northeast refiners, replacing more costly imports from less stable regions. Additionally, the increase in natural gas production is not only providing greater feedstocks for petrochemical facilities, but is helping refineries decrease their operating costs due to less expensive energy costs.

While some hurdles still remain, further development of unconventional shale formations in Ohio could provide northeast refineries with low cost domestic light sweet crude oil. Preliminary estimates by Ohio's Department of Natural Resources (ODNR) suggest that the recoverable reserves within the Utica formation are between 1.3 and 5.5 billion barrels of oil in addition to 3.8 to 15.7 trillion cubic feet of natural gas. Increased interest in Utica shale oil and natural gas formation, along with the proper pipeline infrastructure, could significantly increase access of light sweet crudes for purchase by refiners in the Northeast region of the United States.

V. CONCLUSION

The U.S. refining and petrochemical industries are American success stories that are nevertheless facing new challenges. Despite supporting millions of jobs and positively impacting our trade balance, a storm of high crude costs, increased competition, decreased domestic demand, and overreaching Government regulations have forced several refineries to close.

Still, these challenges are not insurmountable, and with the help of Congress and the administration, America's oil and gas industry can lead to a resurgence in U.S. manufacturing, increase our energy security, and continue to create jobs here at home. AFPM recommends:

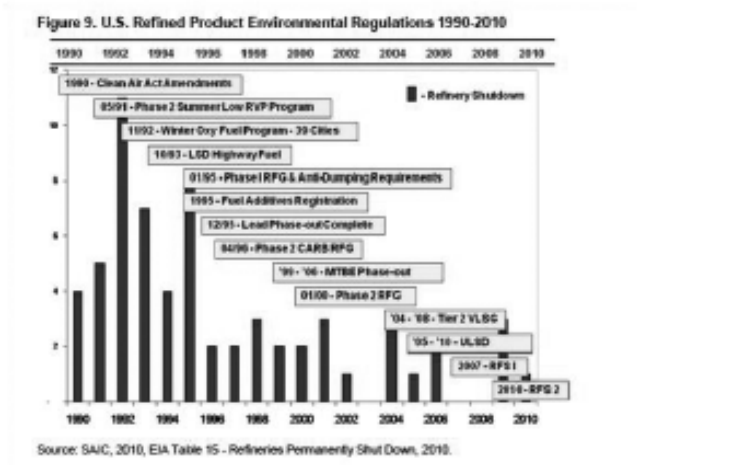
- *Fully develop domestic supplies of energy*.—Contrary to the claims of the critics of fossil fuels, America is not energy-poor; rather, we are energy-rich. There is a treasure trove of oil and natural gas under our feet and off our shores—enough to make America the biggest energy producer in the world. Our challenge is not to find this buried treasure or to extract it, but rather to convince the Federal Government to reverse its current energy policy and allow the development of these resources in a safe and environmentally responsible manner.
- *Reduce the impacts of overregulation*.—AFPM recognizes that Government has the responsibility to balance the demands of protecting public health while fostering the competitiveness of U.S. business. AFPM supports sound environmental and other regulations that strike the appropriate balance between environmental and economic stewardship. Unfortunately, the size, scope, and cumu-

lative burden of current and impending regulatory activity is creating both significant regulatory uncertainty and a slew of conflicting regulations that will impose significant burdens on domestic fuel manufacturers, which further decreases our National security and makes American refiners less competitive.

A robust domestic fuel industry is vital to U.S. National security. AFPM and its members stand ready to work with Congress in the administration to grow our domestic energy security, strengthen our National security, and create jobs while protecting our environment to build a better life for Americans today and a better future for the generations that come after us.

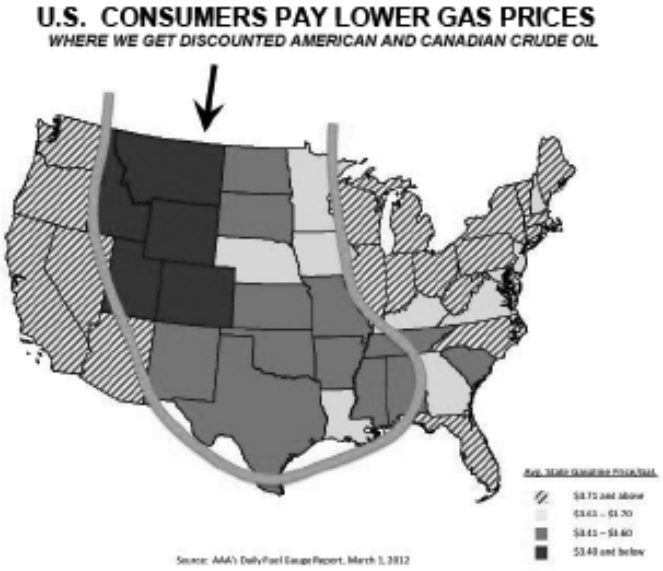
EXHIBIT A

EXHIBIT B



Source: U.S. Department of Energy, Office of Policy and International Affairs, *Small Refinery Exemption Study – An Investigation Into Disproportionate Economic Hardship*, p. 28-30, found at: http://www.epa.gov/otaq/fuels/renewablefuels/compliancehelp/small-refinery-exempt-study.pdf

EXHIBIT C



- *Rocky Mountain States Are Currently Paying $0.50 Less Per Gallon of Gasoline Than National Average*.—National Avg: $3.74/gal, Wyoming $3.17/gal (–$0.56), Colorado: $3.19/gal (–$0.55), Montana $3.28/gal (–$0.46) (AAA, 3/1/12).
- *Lower Gasoline Prices Due to Access to American and Canadian Crude Oil*.—According to a report by the U.S. Energy Information Administration (EIA), low gas prices in Rocky Mountain States are because of their easy access to cheap

crude oil produced in the U.S. Bakken region or imported from Canada (EIA, 2/14/12).

- *North American Oil Boom Is Driving Down Prices v. Rest of World.*—North American crude oil sells at a discount compared to world prices. West Texas Intermediate (WTI) is averaging $18 less per barrel than the international North Sea Brent price. Bakken crude has sold as much as $28 per barrel less than WTI crude (EIA, 2/29/12).
- *East Coast States Rely on Higher Priced International Crude Supplies.*—Because they lack the pipeline infrastructure to access cheaper U.S. and Canadian crude, East Coast refineries must use more expensive international Brent crude to make gasoline (IntlBusinessTimes, 3/1/12).
- *Higher East and West Coast State Gas Taxes Do Not Explain Higher Prices.*—For example, New York drivers pay $0.27 per gallon more in State gas taxes than Colorado drivers. Yet, gasoline costs $0.78 more per gallon in New York than Colorado. That is still a $0.52/gal. difference.

Mr. MEEHAN. Thank you, Mr. Drevna.

Now I turn to Mr. Greco for testimony.

STATEMENT OF ROBERT GRECO, GROUP DIRECTOR, DOWNSTREAM AND INDUSTRY OPERATIONS, AMERICAN PETROLEUM INSTITUTE

Mr. GRECO. Good morning, Mr. Chairman and Mr. Carney. My name is Bob Greco and I am Downstream Group Director for the American Petroleum Institute, API. Thank you for the opportunity to testify today.

The API represents all aspects of America's oil and natural gas industry. The industry supports 7.7 percent of our economy, 9.2 million jobs, and millions of Americans who hold ownership stakes through pension funds, retirement accounts, and investments.

Refineries are critically important to our Nation. They make the fuels that virtually all Americans use and that drive our economy. They contribute to our energy and National security, and they provide jobs for tens of thousands of Americans and substantial revenue to local, State, and Federal governments.

The recent refinery closures here in Pennsylvania are of great concern. They have the potential to impact families, communities, and other manufacturing industries, and to reduce tax revenues. We very much regret that situation. It is also important, however, to understand the reasons why refining is such a challenging business and why closures sometimes occur, and to also know that the refining industry is resilient and will continue to supply the products people in this area and all Americans need.

Refining is highly competitive. It has also historically been a low-profit-margin industry faced with a heavy slate of regulations involving many billions of dollars in environmental investment and compliance costs. Because of these and other factors, some refineries often after sustained periods of financial losses had to shut down. About 75 U.S. refineries have closed since 1985. As this has happened, however, the remaining larger, more efficient facilities have expanded capacity so the total U.S. refining has actually increased by 13 percent. The ability of our industry to add capacity and deliver larger amounts of gasoline and other products over a flexible distribution network and to also draw on imported products when necessary will help us continue to provide Americans the fuels they need.

The higher prices we see now also have been a challenge for refineries. Rising global demand and Middle East tensions have

pushed the cost of crude oil higher. This cost is the single biggest factor in the price of gasoline, accounting for about three-quarters of the price at the pump, excluding gas taxes, and is the largest cost incurred by refineries. Refiners have struggled to pay these high raw material costs to make products for Americans when demand has been relatively weak because of the recession. This has severely pushed down margins and has negatively affected all refineries.

Good policy choices mean sensible regulations, fair taxes, and sufficient access to crude oil from all of the refined products that we make. Decisions made in Washington, DC, are a big part of the equation but so are those made by local and State governments. Excessive rules can help raise cost and make it harder for our refineries to compete and stay in business. Policies such as those embraced by the current administration that limit crude oil production in the United States or prevent ready supplies from being imported from Canada can help drive up crude oil prices that eventually affect refineries and those who consume the gasoline, diesel, and other products they make.

That is why we have been calling on the administration for a change of course. We have urged them to expand access to America's vast oil and natural gas resources on public lands that could also add supplies to markets and help drive down prices. We have urged them to approve the Keystone XL pipeline, which could deliver from Canada very large additional supplies of crude oil to U.S. refineries that serve U.S. markets. We have called for more sensible, cost-effective regulations that show a practical regard for the potential impacts on the industry, its employees, and those who depend on the products they make. We have asked the EPA in particular to reconsider a virtual blizzard of new, poorly-thought-out or unnecessary rules that affect our refiners including, for example, a rule that forces refiners to blend into gasoline advanced biofuels that do not yet exist or pay a fee for not doing so. We have challenged billions of dollars in proposed tax increases on an industry that already pays vast sums to the Government at far higher effective tax rates than most other industries.

In conclusion, America's refineries are a critical part of the Nation's industry bedrock and part of the fabric of the communities in which we operate. They make products that are absolutely indispensable to America and they are vital to our National security. Our policymakers must understand this for this vital sector of our economy to continue serving America the best that it can.

Thank you, and I look forward to your questions.

[The statement of Mr. Greco follows:]

PREPARED STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE (API)

MARCH 19, 2012

Good morning. My name is Bob Greco and I am group director of Downstream and Industry Operations for the American Petroleum Institute (API). Thank you for the opportunity to speak at this hearing today.

API represents all aspects of America's oil and natural gas industry. The industry supports 7.7 percent of our economy, 9.2 million jobs, and millions of Americans who hold ownership stakes through pension funds, retirement accounts, and investments.

Refineries are critically important to our Nation. They make the fuels that virtually all Americans use and that help drive our economy. They contribute to our energy and National security. And they provide jobs for tens of thousands of Americans and substantial revenue to local, State, and Federal Governments.

The recent refinery closures here in Pennsylvania are a matter of great concern. They have the potential to impact families, communities, and other manufacturing industries, and to reduce tax revenues. We very much regret that.

It's also important, however, to understand the reasons why refining is such a challenging business and why closures sometimes occur—and to also know that the refining industry is resilient and will continue to supply the products people in this area and all Americans need.

Refining is highly competitive. It has also traditionally been a low-profit margin industry faced with a heavy slate of regulations over the decades involving many billions of dollars in environmental investment and compliance costs. Because of these and other factors, some refineries—often after sustained periods of financial losses—have had to shut down. About 75 U.S. refineries have closed since 1985.

As this has happened, however, the remaining larger, more efficient facilities have expanded capacity so that total U.S. refining capacity has actually increased by 13 percent. This has allowed the sector to continue to reliably provide Americans with the fuels they need.

The ability of our industry to add capacity and to produce and deliver larger amounts of gasoline and other products over a flexible distribution network—and also to draw on imported products when necessary—will help us continue to supply markets here.

The higher prices we see now also have been a challenge to our refineries. Rising global demand and Middle East tensions have pushed the cost of crude oil higher. The cost of crude oil is the single biggest factor in the price of gasoline—accounting for about three-fourths of the pump price excluding gasoline taxes—and is the largest cost incurred by refineries.

Refiners have struggled to pay these high raw material costs to make products for American markets at a time when demand has been relatively weak because of the recession. This has severely pushed down margins and has negatively affected all refineries.

Refining is a difficult business. But we can make better energy policy choices that can help the industry remain a reliable, stable supplier of affordably-priced fuels and keep its workers employed.

Good policy choices mean sensible regulations, fair tax policies, and sufficient access to the crude oil from which all refined products are made. Decisions made in Washington, DC, are a big part of this equation, but so are those made by local and State governments.

Excessive rules can raise costs and make it harder for our refineries to compete and stay in business. Policies—such as those embraced by the current administration over the past 3 years—that limit crude oil production in the United States or prevent ready supplies from being imported from Canada can help drive up crude oil prices that eventually affect refineries and those who consume the gasoline, diesel fuel, and other products they make.

That's why we have been calling on the administration for a change of course.

We've urged them to expand access to America's vast oil and natural gas resources on public lands that could also add supplies to markets and help drive down prices.

We've urged them to approve the Keystone XL pipeline, which could deliver from Canada very large additional supplies of crude oil to U.S. refineries that serve U.S. consumers.

We've called for more sensible, cost-effective regulations that show a practical regard for potential impacts on industry facilities and to the people who work there or who depend on the products they make.

We've asked the EPA in particular to reconsider a virtual blizzard of new, poorly-thought-out or unnecessary rules affecting our refining sector, including, for example, a rule that forces refiners to blend in gasoline—or pay a fee for not doing so—advanced biofuels that do not yet exist.

And we've challenged billions of dollars in proposed tax increases on an industry that already pays vast sums to the Government at far higher effective rates than most other industries.

The U.S. oil and natural gas industry's earnings are in the billions, it is true, but the industry's profit margins, or earnings per dollar of sales, are in line with other U.S. manufacturing industries. What our companies earn goes to investing in new production and new facilities, running our companies, paying our employees, and delivering more than $86 million a day to the Federal Government in revenue.

These earnings also provide a fair return on investments to our owners—the tens of millions of Americans who own our companies in their 401(k)s and IRAs or receive income from Government pension funds invested in oil and gas stock.

America's refineries are a critical part of the Nation's industrial bedrock and a part of the fabric of the communities in which they operate. They make products that are absolutely indispensable to America. They are vital to our National security.

Our policy makers must understand this for this vital sector of our economy to continue serving America the best it can.

Thank you.

Mr. MEEHAN. Thank you, Mr. Greco. Thank you, Mr. Drevna. I now recognize myself for 5 minutes of questioning.

We just had the analysts on whose responsibility it is to sort of dispassionately assess the facts. You work in this industry. I want to understand why is it that we are seeing global demand for energy increase, greater utilization of these natural resources in developing countries as well, and yet right here in the United States here on the East Coast, here in Marcus Hook, we are losing our refineries. Mr. Drevna.

Mr. DREVNA. Well, fortunately, I cannot be dispassionate about it because the industry that I represent and the people we employ are all part of the big picture, so there is going to be a little bit of passion. The problem, sir, is that we do—we can't separate ourselves, the global economy from the local economy. As Bob said, 76 percent of the cost at the pump is the barrel. Another 12 percent or so is taxes. So we are married to the price of crude. Now, when you look at what happened, as the other economies around the world are expanding right now, as a matter of fact, if you look at what is happening in India, look at what is happening in China, and even with 54 nuclear reactors being down in Japan, they are adding another 286,000 to 300,000 barrels a day of demand just in Japan, so that again is—there is not that much of a cushion between world-wide production of crude and the demand.

Now, here in the United States, we have an ample supply of fuel. Why? Well, because we went through a—we have gone through a recession. Who knows what the real unemployment number is? People aren't driving. They are changing their driving habits. We are adding 10 percent ethanol and other things to the gasoline, which took away 10 percent of our market right off the top. So when you add up all those things, the simple answer is, these refineries are in a very, very tough competitive business and going forward they are looking at the capital investment they would have to make just to stay even with environmental—I mean, Sunoco itself said they lost how many billions of dollars over the past——

Mr. MEEHAN. Are they making similar kinds of investment in India and other places?

Mr. DREVNA. Oh, India has made a huge investment in taking that reliance refinery upwards to a million barrels a day but they are not doing it under U.S. rules. Right now, if I may use the term, they are salivating at what they can do.

Mr. MEEHAN. But you pointed out that what we have is roughly a global balance at this point in time. While we may have a little bit of excess currently because we are in a situation in which we curtailed our utilization of energy here in the United States. I am sorry, did I misstate it?

Mr. DREVNA. No, you are right. Well, there is roughly a balance of crude supply in the world. We have more than ample supply in the United States right now to service the needs as the economy is today. Now, we hope the economy increases.

Mr. MEEHAN. As the economy is today, but what happens—and I will get to you, Mr. Greco, because I want you to answer that question I asked initially, but I want to follow up on this line of questioning. What happens right now if we are in a circumstance in which we now have to rely more on these refineries overseas and they make the determination that they want to steer this product towards another country, towards their own—India is refining more for India. China is refining more for China. We are now not only trying to compete for global access to the oil but, once we get the oil, we have to go someplace else to get it refined.

Mr. DREVNA. That is a situation that I don't want to find ourselves in, Congressman. It is a terrible situation. You know, if we want as a Nation, as we should, to be less reliant on foreign sources of crude oil, why would we want to put ourselves in a predicament of being more reliant on foreign sources of refined product. So, you know, but it is not a simple yes or no. It is what can we do as a Nation working together to make sure that that is minimized and the things that I have outlined, opening up access to our own resources, taking a look at these regulations—Bob hit on a couple of them—let us sit down and say which ones are necessary, which ones have gone too far, and for our industry, which ones are conflicting. Greenhouse gases versus tier 3 sulfur. Can't do both. It is a dichotomy of the regulatory scheme. So let us sit down and figure out how to keep Americans working, how to keep refineries running, and how to make our country economically and Nationally secure.

Mr. MEEHAN. Mr. Greco, I didn't give you a chance. I asked a question and then I got into a long litany with Mr. Drevna, but I would like you to respond to that particular question I asked at the outset or any comments with regard to Mr. Drevna's observation.

Mr. GRECO. I will just add to what Charlie said. You have to look at the long-term prospects for growth in the United States. Even though our economy is recovering, the EIA and others have projected basically flat U.S. demand or dropping U.S. demand for refined products. So when you are looking at refineries who are investing for 10, 20, 30 years out, they are looking at what their future demand looks like, and they are looking at a plateau, maybe a drop-off after that.

Mr. MEEHAN. I see testimony from you that you expect the demand for refined products to decrease here in the United States by some 18 percent.

Mr. GRECO. Well, this is EIA testimony. I am citing EIA projections. We don't project future growth but EIA and others have projected a flattening demand, and some a decrease. So when you have a surplus of refining capacity, which we do in the United States, you can understand why we have had a trend of refinery closures for the past 30 years. The refineries are growing, the more efficient ones are growing, but those that are at risk will continue to be at risk because of the outlook going forward.

Mr. MEEHAN. Is that a flattening demand due to things like the CAFE standards which are going to generate as well as I am assuming the second factor of a flattened demand. When we are talking about demand, when we are talking about demand for refined products so that does not include the ethanol, which is——

Mr. GRECO. That is one of the primary drivers is the fact that you have a 10 percent ethanol mandate that is increasing over time. You also have CAFE standards. The fuel economy standards have gotten tighter so vehicles will get more efficient and continue to get more efficient over time. So the combination of increased renewables and increased vehicle efficiency are going to offset the economic——

Mr. MEEHAN. Let me ask one point. At what point in time do we start to—you know, we have reduced sulfur emissions almost 90 percent since we began these. But at what point in time do we keep making demands of higher and higher standards at which point some of them stop gaining their advantage but what we are losing the ability here to keep our refineries open.

Mr. GRECO. Well, we have already reduced 90 percent of the sulfur in gasoline. As Charlie mentioned, there is a tier 3 proposal that EPA is working on that would reduce gasoline sulfur even further. We have not seen a justification for that rule or any cost-benefit analysis. So our feeling is that this is yet another cost that hasn't been justified to the industry. Let us see a justification for this before we go ahead and move forward with such an expenditure.

Mr. MEEHAN. My time is expired. I will turn to my colleague, Mr. Carney.

Mr. CARNEY. Thank you, Mr. Chairman.

I have been scratching my head all morning about the economics of these global petroleum markets and how they really affect what we are here today to talk about, which is the refineries here along the Delaware River, and I am still scratching my head. I thought I just heard you say that supply is up, demand is down in the United States, you know, basic economics, prices should be down, prices are going up. You also said that the refining industry is basically tied directly to—married, I think you said—was to the price of crude oil. So it seems to me the issue really is the divergence between local supply and demand versus global supply and demand for crude oil as well as the divergence between the kinds of crude, because otherwise, everything ought to—first of all, they shouldn't be going up. Basic economics. This seems like health care. It is the only other market that doesn't work like a market where driven by supply and demand. So why is it, if supplies are up and demand is down, prices are going up?

Mr. DREVNA. Well, again, Mr. Carney, you have to differentiate——

Mr. CARNEY. It can't be related to things that are happening, you know, prospectively, right? It has to be related to things that are happening today.

Mr. DREVNA. Well, first of all, again, you have to make the differentiation. We talked about supply and demand. You have to differentiate the supply and demand of the global crude market, which dictates 76 percent of the cost at the pump——

Mr. CARNEY. Right. So given the price of crude, that would suggest that demand is far outstripping supply because the prices just——

Mr. DREVNA. Well, there are a lot of things that go into the price of crude on the global market, none of which we control.

Mr. CARNEY. So it not an operating market that we learned about in our economics class where supply and demand determines price?

Mr. DREVNA. No. You mentioned earlier, you know, you had the Arab Spring, you have the potential for something happening sometime this June in the Middle East. We don't know exactly what that is. The price today is dictated upon what people believe is going to be in the future.

Mr. CARNEY. So given that reality, so then the concept of energy independence should be a good goal, right? You said yourself that—why we would want to be dependent on supply of foreign crude? For the same reason, why would we want to be dependent for the supply of foreign refined products? I happen to agree with you on both cases.

Mr. DREVNA. I agree. Now, let me give you an "if." Right now all the imports that we take in of crude oil, and let us differentiate crude from finished product. Crude oil, 53 percent non-OPEC, 47 percent OPEC, and that 53 percent non-OPEC is mostly from Canada, etc. If we would just have the President sign a document that says we can build the Keystone pipeline that adds 700,000 barrels a day, that will knock off 12 percent of OPEC crude coming into this country.

Mr. CARNEY. Well, as I understand—we had this conversation with the first panel—is that those supplies are going to go to the Gulf Coast and be exported.

Mr. DREVNA. They are not going to be exported. What is going to be exported is—the 700,000 barrels a day will be refined in the United States by United States refineries operated by United States citizens and workers. It will be distributed——

Mr. CARNEY. How is that going to help these refineries right here along the Delaware River?

Mr. DREVNA. Well, again, they are——

Mr. CARNEY. The answer is: It is not, because the problem is not that. The problem is the difference between the cost of refining the different types of crude, correct?

Mr. DREVNA. That is true.

Mr. CARNEY. So explain to me what has happened over the last several years that have made these refineries lose money and other refineries obviously not lose money that enabled them to stay open.

Mr. DREVNA. The difference in the price of crude in the regions. If you look at——

Mr. CARNEY. That doesn't make any sense, because if the crude is the same——

Mr. DREVNA. It is not the same.

Mr. CARNEY [continuing]. It is a function of the price that are you are getting from the refined product minus the cost of refining.

Mr. DREVNA. But it is not same the crude, sir. It is not the same crude. East Coast refineries are, as I said, relying upon Brent crude, most of it coming from either the west coast of Africa or

whatever. It is Brent. It is the highest-priced crude in the world. If you look at my testimony, the chart that says why there is a differential in crudes, why there is a differential in pump prices, the map that says—the last page of the testimony, the map that says where the different crudes are coming from and how they are priced, that is the difference. In 2008, there wasn't a difference. Everything went up. Every refinery was hurt.

Mr. CARNEY. So that is the issue, the divergence between certain kinds of crude, right?

Mr. DREVNA. Yes, sir.

Mr. CARNEY. What is driving that?

Mr. DREVNA. International affairs. Again, the refiners and oil companies have absolutely no control over what the price of crude is. We are the first customer. We have absolutely no control over the price of crude.

Mr. CARNEY. Mr. Greco, one of the impacts or one of the factors that determines the cost of refining is what has to be done in that process, and you mentioned in your testimony some of the environmental requirements that drive that. Could you talk about the things that exist today that are driving that, that have negatively impacted the refineries right here along the Delaware River?

Mr. GRECO. Well, we can talk generally. The fact is, we——

Mr. CARNEY. No, I want to talk specifically because I want to talk about the requirements that have affected the jobs of the people who are sitting behind you and the refineries in particular here. Because we just determined that in fact there is a difference. If you are down in Delaware City, they are able to make a profit, and somebody has come in and has reopened that refinery because they refine a different kind of crude. So tell me specifically—I see my time has run out.

Mr. MEEHAN. No, please feel free.

Mr. CARNEY. Tell me specifically what it is that is affecting these refineries in terms of that refining process and those environmental requirements.

Mr. GRECO. As Charlie pointed out, refineries have varying degrees of efficiency and complexity. Some refineries are more able to handle the cheaper crudes than others. When you start layering on environmental regulations, you are increasing the cost of compliance for every refinery. Some refineries because they are more efficient or can take advantage of other synergies such as cheaper crude may remain more competitive. But at some point the least competitive in any industry to the extent that more and more requirements are layered on those, the least competitive players are going to drop off, and that is what I think we are seeing in the United States.

Mr. CARNEY. So I heard that when Mr. Drevna said that in his—I am sorry. My time is up.

Mr. MEEHAN. No, go ahead. Proceed with your question.

Mr. CARNEY. So I heard Mr. Drevna say that in his opening remarks, and that suggested to me that there was some investments that maybe weren't made in these refineries to make them efficient, competitive, or some differentiation between these refineries and other refineries, low sulfur, sweet crude, that were picking up

the slack and that were able to be successful. Are you aware of those investments or the reasons they are not competitive?

Mr. GRECO. We can't comment about individual companies who made individual decisions to invest or not invest. What we have seen is that there has been——

Mr. CARNEY. But you would say that they must not have made investments or they must not have done what was necessary to make them as efficient and as competitive as somebody else in the marketplace, without naming names.

Mr. GRECO. Each refinery is unique. They each have their own unique processes, the types of crude they buy. So you can't compare individual refineries. The companies that own those refineries are making the decisions to determine for the next 20, 30 years what do I need to do to remain competitive. In some cases, you had refineries expand. There have been a number of expansions in the Gulf Coast in the Midwest where companies spent billions of dollars to increase the size of the refineries. Some of those are to take advantage of the heavier crudes coming from Canada, the ones that Charlie mentioned that are sold at a discount. Because they are already configured to handle these heavier crudes, they are taking advantage of their size and also their complexity to maximize their competitiveness. Again, other refineries have made other decisions to close.

Mr. CARNEY. Thank you. I see my time is long expired. Thank you, Mr. Chairman.

Mr. MEEHAN. I didn't want to stop you. You were on a roll, Mr. Carney. I appreciate your questioning.

I want to ask a follow-up question or two, but before I do so, the Chairman wants to recognize State Representative Maria Donatucci is here today. She has been a great partner from among the many elected officials on the State and the local level who have worked in collaboration addressing this issue, and I thank you for being here.

Let me ask a question. You talked about the discrepancy that exists or the valuation difference that exists because we have a large deposit of the Bakken crude that is in the mid-continental region that is stranded to some extent and therefore, as I understand it, they are charging less at this point in time, and, you know, a gallon of gasoline in Colorado is 35 to 50 cents cheaper than it is here, maybe 25 cents cheaper, but it is cheaper there. What are opportunities are there for our refineries to take advantage of this kind of an asset and be able to take the town workforce and the resources that we have to develop that deposit and compete in the same manner that is being done mid-continent?

Mr. DREVNA. Mr. Chairman, we need to be serious about developing our own infrastructure. Again, if you look at that map, we are pretty good going north-south here with oil crude transportation with the noted exception of the bottleneck at Cushing which we hope in a short time frame will be alleviated somewhat, but if look east-west, we don't have a great transportation system, and you really don't have to go as far as Bakken, and as I understand, they have already railed Bakken crude into Albany and then piped it down to some refinery here for test runs. But you have Utica in Ohio, which is the same quality, and it is right there. You know,

will it keep these refineries open? I can't predict anything like that. Can it? Would it be a significant impact if the refineries on the East Coast could have access to domestic sweet crude? Yes, I think we could do some good things, and that is why I say, develop our own resources and build our own shovel-ready infrastructure.

Mr. MEEHAN. So it would be a factor of infrastructure would be the kind of a thing. Any other policy issues with respect to things that would make it conducive for us to be able to compete for the opportunity to access that?

Mr. DREVNA. Well, it is on private land so it is being developed, but, you know, getting pipelines, getting rights-of-way, permitting. If anybody wants to stop it and delay it, they can and they have.

Mr. MEEHAN. Mr. Greco, do you have any thoughts on that?

Mr. GRECO. One additional comment. As Charlie mentioned, most of the development is currently on private lands. That is where we have seen the tremendous growth. We could use administration support for further development on the public lands, the off-shore, the on-shore public lands. Markets react to signals from the administration and others as to future supply. So not just the current supply, but if we see a willingness to increase and be committed to developing our own resources, markets will react. We have a good example of that back in 2008 when crude was averaging $130 a barrel. President Bush announced that he was lifting the moratorium, the Presidential moratorium on off-shore development. Over the next 6 weeks, the price of crude oil dropped by $16 a barrel. I am sure there were other factors involved in that but markets react to price signals. They react to the intent and what they see for future expectations of supply, and this administration could be much more supportive and send similar types of signals to the market.

Mr. MEEHAN. I don't know the answer to this, but I do know that Virginia was talking about developing or seeking permission to develop their energy resources off-shore. Is that the same kind of a crude? Do we know if that the same kind of a crude as the Bakken crude that would then be able to be perhaps even closer to a resource like our refineries here on the East Coast?

Mr. GRECO. It could be. We have not had the opportunity to explore. We can't even assess the resource.

Mr. MEEHAN. How do we know that there is oil down there?

Mr. GRECO. We have information from the USGS that is going on 10, 20 years old about potential resources. What happens then is we open up areas for leasing. Companies have a financial incentive to go in there and actually assess the resource to make a decision whether they should drill or not. But with 90 percent of our coastlines off-limits, we don't even have the opportunity to explore those areas.

Mr. MEEHAN. Do you have any thoughts, Mr. Drevna? Do you have a comment?

Mr. DREVNA. As a matter of fact, not only the opportunity but Congress passed a law forbidding us to even inventory. That was 2002 or 2003.

The other thing, and to expand a little bit on what Bob was referring to about sending the market a signal, well, twice now in the past 11 months or so, there was a signal sent to the market, albeit

I would suggest it was the wrong signal when we released 30 million barrels of crude oil from the SPR last July and the price of oil went down $2, $3 a barrel in 1 day. It lasted for a couple days because we released 30 million barrels, which is like 9 hours on a global market. Last week, the President and Prime Minister Cameron were talking about releasing some oil from the SPR, and the price went down $2 like that. Imagine——

Mr. MEEHAN. But is that all just for people who are sort of speculating and trying to play the game as to what is going to happen?

Mr. DREVNA. Well, but that sends a signal to the market. Imagine if we would do Keystone, if we would open up access, if we would, as Congressman Carney and I talked about, really focused on our own energy, if not independence, on our own energy security, what kind of message that sends to the international markets, that A, America is determined to be energy and economically and Nationally secure, and B, we are going to be something about it now. You know, we could have this same conversation, Congressman, next year because it is going to take 4 years to do it, and we could be having the same conversations as more and more refineries are closing throughout the country.

Mr. MEEHAN. I am concerned about the earlier testimony that suggests that we may be looking at even additional refinery closings, but I am struggling with this concept that we keep off-shoring this capacity because once we lose this capacity, we will be dependent upon, to the extent that we are able to access our own, but to the extent that we have to turn to foreign countries for the ability to refine it even if we get it here is a concern of mine, unless you tell me that we are continuing to develop capacity sufficient to meet our supply.

Mr. DREVNA. I watched steel mills in my hometown up and down the Monongahela and Ohio River close when I was growing up. We don't want that to happen anymore.

Mr. MEEHAN. Mr. Carney, do you have any follow-up questions?

Mr. CARNEY. Well, I would just mention the fact that I am pleased that the steel mill that is in the town that I grew up still exists right down the right here in Claymont, and it is not run by an American company anymore but it still operates and produces steel in global markets that maybe are somewhat uncompetitive.

I am still scratching my head. You mentioned that markets react to price signals. The problem seems to be that prices don't seem to react to markets in the way that we were taught in the textbooks in the petroleum industry, and that is why I am still at a loss to explain or to understand why these refineries that are here in our region are not competitive, that were losing money, according to Sunoco management at the rate that they were, and other refineries around the country refining, as you just said, the same kind of crude were more efficient and were able to make a profit or at least stay in operation.

What concerns me the most particularly this morning, because this hearing is a Homeland Security hearing, we are having it here because Congressman Meehan has prevailed upon his colleagues on the committee to allow us to do that, and I have been able to participate because he was able to get unanimous consent for that. So I come back to the one thing that you said a minute ago, Mr.

Drevna, which is: Why? If we are trying not to be reliant on foreign crude oil and all of the National security implications that that has had and all the problems it has created for our country going back as long as I have been paying attention, and in fact the impact it has on the value of the dollar. If there is one thing that affects the dollar, it is the fact that tens of hundreds of billions, trillions of dollars flow out of this country to countries around the world and affecting the value of the dollar more so than I would argue than some of the impacts that you mentioned.

I think the issue for this morning, though, is: What does the closure of these facilities mean for our own security here in our country? My conclusion is that it is not a good thing, that it is going to make us more reliant, not just on crude coming from overseas but also in refined products and that those supply chains are going to be subject to terrorist attack. They could be subject to political shutdown just like we imposed on the state of Iran with respect to their activities there in that region, and I don't see how you can conclude—I know we had the Homeland Security representative in the first panel—that this is not a really negative thing for the security of our country. Mr. Drevna, I agree with you that we ought to be doing what we can to make sure that these facilities are able to operate here and operate profitably. But it appears that we are subject to the whims of the marketplace that don't seem to be driven by the supply-demand price equations that I am familiar with, and that doesn't require any response, but I want to thank you. What I would ask you, though, I guess Mr. Greco in particular, to list those things, you know, environmental constraints and imposed costs on the refining process, particularly ones that do not give us any kind of benefit or a benefit that justifies the cost that they impose on the system.

Mr. GRECO. I would certainly be happy to respond.

Mr. CARNEY. Thank you.

Mr. GRECO. Also, we can give you some information that does show that diesel and gas prices do mirror crude oil prices. If you look at NYMEX, it is very much a stair-step—so when you talk about the markets don't react like a typical market does, in reality, it really does mirror the price of crude oil.

Mr. CARNEY. You don't agree with that statement?

Mr. GRECO. I would prefer to clarify it for you.

Mr. CARNEY. Fair enough. I am not an expert, but I just watch what happens at the pump.

Mr. MEEHAN. Well, thank you, Mr. Carney, and I thank our panelists, the witnesses for your valuable testimony. Either these Members or other Members from the committee may have questions, and if they do and they are submitted to you, I ask that you respond in writing. The hearing record will be open for 10 days to do so, and so without objection, the committee stands adjourned.

[Whereupon, at 12:11 p.m., the subcommittee was adjourned.]

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