KEEPING THE FUEL FLOWING FROM THE GULF: ARE WE PREPARED FOR THE HURRICANE SEASON?

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND RESOURCES

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

JUNE 7, 2006

Serial No. 109–213

Printed for the use of the Committee on Government Reform

Available via the World Wide Web: http://www.gpoaccess.gov/congress/index.html
http://www.house.gov/reform

U.S. GOVERNMENT PRINTING OFFICE

33–118 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON GOVERNMENT REFORM

TOM DAVIS, Virginia, *Chairman*

CHRISTOPHER SHAYS, Connecticut
DAN BURTON, Indiana
ILEANA ROS-LEHTINEN, Florida
JOHN M. MCHUGH, New York
JOHN L. MICA, Florida
GIL GUTKNECHT, Minnesota
MARK E. SOUDER, Indiana
STEVEN C. LATOURETTE, Ohio
TODD RUSSELL PLATTS, Pennsylvania
CHRIS CANNON, Utah
JOHN J. DUNCAN, JR., Tennessee
CANDICE S. MILLER, Michigan
MICHAEL R. TURNER, Ohio
DARRELL E. ISSA, California
JON C. PORTER, Nevada
KENNY MARCHANT, Texas
LYNN A. WESTMORELAND, Georgia
PATRICK T. MCHENRY, North Carolina
CHARLES W. DENT, Pennsylvania
VIRGINIA FOXX, North Carolina
JEAN SCHMIDT, Ohio

HENRY A. WAXMAN, California
TOM LANTOS, California
MAJOR R. OWENS, New York
EDOLPHUS TOWNS, New York
PAUL E. KANJORSKI, Pennsylvania
CAROLYN B. MALONEY, New York
ELIJAH E. CUMMINGS, Maryland
DENNIS J. KUCINICH, Ohio
DANNY K. DAVIS, Illinois
WM. LACY CLAY, Missouri
DIANE E. WATSON, California
STEPHEN F. LYNCH, Massachusetts
CHRIS VAN HOLLEN, Maryland
LINDA T. SANCHEZ, California
C.A. DUTCH RUPPERSBERGER, Maryland
BRIAN HIGGINS, New York
ELEANOR HOLMES NORTON, District of Columbia

BERNARD SANDERS, Vermont (Independent)

DAVID MARIN, *Staff Director*
LAWRENCE HALLORAN, *Deputy Staff Director*
TERESA AUSTIN, *Chief Clerk*
PHIL BARNETT, *Minority Chief of Staff/Chief Counsel*

SUBCOMMITTEE ON ENERGY AND RESOURCES

DARRELL E. ISSA, California, *Chairman*

LYNN A. WESTMORELAND, Georgia
ILEANA ROS-LEHTINEN, Florida
JOHN M. MCHUGH, New York
PATRICK T. MCHENRY, NORTH CAROLINA
KENNY MARCHANT, Texas

DIANE E. WATSON, California
BRIAN HIGGINS, New York
TOM LANTOS, California
DENNIS J. KUCINICH, Ohio

EX OFFICIO

TOM DAVIS, Virginia

HENRY A. WAXMAN, California

LAWRENCE J. BRADY, *Staff Director*
DAVE SOLAN, *Professional Staff Member*
LORI GAVAGHAN, *Clerk*
RICHARD BUTCHER, *Minority Professional Staff Member*

CONTENTS

	Page
Hearing held on June 7, 2006	1
Statement of:	
Greco, Robert, group director of upstream and industry operations, American Petroleum Institute; and Tyson Slocum, energy program research director, Public Citizen	68
Greco, Robert	68
Slocum, Tyson	90
Johnson, General David L., Director, National Weather Service, NOAA; Admiral Thomas Barrett, Administrator, Pipeline & Hazardous Materials Safety Administration, Department of Transportation; and Guy Caruso, Administrator, Energy Information Administration	11
Barrett, Thomas	21
Caruso, Guy	36
Johnson, David L.	11
Letters, statements, etc., submitted for the record by:	
Barrett, Admiral Thomas, Administrator, Pipeline & Hazardous Materials Safety Administration, Department of Transportation, prepared statement of	23
Caruso, Guy, Administrator, Energy Information Administration, prepared statement of	38
Greco, Robert, group director of upstream and industry operations, American Petroleum Institute, prepared statement of	71
Issa, Hon. Darrell E., a Representative in Congress from the State of California, prepared statement of	3
Johnson, General David L., Director, National Weather Service, NOAA, prepared statement of	14
Slocum, Tyson, energy program research director, Public Citizen, prepared statement of	92
Watson, Hon. Diane E., a Representative in Congress from the State of California, prepared statement of	64

KEEPING THE FUEL FLOWING FROM THE GULF: ARE WE PREPARED FOR THE HURRICANE SEASON?

WEDNESDAY, JUNE 7, 2006

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY AND RESOURCES,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room 2203, Rayburn House Office Building, Hon. Darrell E. Issa (chairman of the subcommittee) presiding.

Present: Representatives Issa and Watson.

Staff present: Larry Brady, staff director; Lori Gavaghan, legislative clerk; Tom Alexander, counsel; Dave Solan, Ph.D. and Ray Robbins, professional staff medmber; Richard Butcher, minority professional staff member; and Jean Gosa, minority assistant clerk.

Mr. ISSA. The subcommittee will come to order, a presumed quorum being present.

Last year's Hurricanes Katrina and Rita provided the government and energy industry with a painful education. Emergency communication systems were rendered inoperable. The electric power on which refineries and pipelines depend was unavailable for much longer than the baseline scenarios had predicted.

We were also made acutely aware that, although we have a strategic petroleum reserve of crude oil, we do not have a strategic reserve of refined fuels such as gasoline and diesel.

I remind everyone that, following Hurricane Katrina, I introduced a bill, H.R. 4043, to have the National Academy of Science study the feasibility of creating a strategic gasoline reserve.

The lessons of 2005 go far beyond a wake-up call. Not only should we expect the unexpected, but we should be prepared for the unimaginable. Anything less could be catastrophic.

Besides the extraordinary and tragic loss of human life of two 100-year storms in the same season, we are left with almost $3-per-gallon average gasoline prices entering the 2006 hurricane season. The production of petroleum and natural gas in the Gulf of Mexico is just now getting back close to normal levels. Petroleum refining capacity was already stretched to the limit before the 2005 hurricanes.

The importance of the Gulf to the United States cannot be overstated.

It is the energy breadbasket for our Nation.

For the 2006 hurricane season—and I do not want to preempt the testimony—but NOAA forecasts that we will have above-average activity.

One noted forecaster has calculated that there is almost a 40-percent chance of the area of Florida or the Florida panhandle, into Brownsville, TX, being hit by a category three, four, or five hurricane in 2006, and I am sure we will hear much more detail as the witnesses begin.

Bearing this in mind, it is critical that we assess government and industry's preparedness efforts to keep the critical fuels flowing from the Gulf of Mexico to the rest of the country. Spiking fuel prices are a grave concern, but even higher prices pale in comparison to the consequence of widespread fuel shortages. During the crisis after Hurricane Katrina, parts of the country were within hours of running short of critical fuels. It was only through the ingenuity and determination of government and industry personnel that the fuel crisis was averted and the U.S. economy did not grind to a halt.

Much was learned from the events of last year. It is imperative that the lessons learned be applied in a systematic manner.

Government and energy industry must closely coordinate their preparedness in response efforts.

In short, are the Federal Government and industries prepared to keep the fuel flowing from the Gulf of Mexico this hurricane season? The answer to this question must be affirmative, and it must be answered in actions, not only words.

Today, we have experts from government, industry, and the marketplace to help answer this over-arching question.

For our first panel of witnesses, we are privileged to have General David Johnson, director of the National Weather Service; Admiral Thomas Barrett, recently sworn in as Administrator of Pipeline & Hazardous Material Safety Administration, Department of Transportation—congratulations, Admiral—and once again, we are joined by the Honorable Guy Caruso, Administrator of the Energy Information Administration.

[The prepared statement of Hon. Darrell E. Issa follows:]

COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON ENERGY AND RESOURCES

OPENING STATEMENT OF
CHAIRMAN DARRELL ISSA

Oversight Hearing:
"Keeping the Fuel Flowing from the Gulf: Are We Prepared for the Hurricane Season?"

June 7, 2006

Last year, Hurricanes Katrina and Rita provided the government and energy industry a painful education. Emergency communications systems were rendered inoperable. The electric power on which refineries and pipelines depend was unavailable for far longer than baseline scenarios predicted.

We were also made acutely aware that although we have the Strategic Petroleum Reserve of crude oil, we don't have strategic reserves of refined fuels such as gasoline and diesel. I remind everyone that following Hurricane Katrina, I introduced a bill, HR 4043, to have the National Academies of Science study the feasibility of creating a strategic gasoline reserve.

The lessons of 2005 go far beyond a "wake up call." Not only should we "Expect the Unexpected," but we should be "Prepared for the Unimaginable." Anything less could be catastrophic.

Besides the extraordinary and tragic human toll of two "100-year" storms in the same season, we are left with almost $3 per gallon average gasoline prices entering the 2006 hurricane season. The production of petroleum and natural gas in the Gulf of Mexico is just now getting back to normal levels. Petroleum refining capacity was already stretched to the limit before the hurricanes of 2005. The importance of the Gulf to the US cannot be overstated—it is the energy "breadbasket" for the nation.

For the 2006 hurricane season, NOAA forecasts that it will be "above average" in activity. One noted forecaster has calculated that there is an almost 40 percent chance of the area from the Florida panhandle to Brownsville, Texas, being hit by a Category 3, 4, or 5 hurricane in 2006.

Bearing this in mind, it is critical that we assess government and industry preparedness efforts to keep critical fuels flowing from the Gulf of Mexico to the rest of the country. Spiking fuel prices are of grave concern, but even high prices pale in comparison to the consequences of widespread fuel shortages.

During the crisis after Hurricane Katrina, parts of the country were within hours of running short of critical fuels. It was only through the ingenuity and determination of government and industry personnel that a fuel crisis was averted and the US economy did not grind to a halt. Much was learned from the events of the past year. It is imperative that the lessons learned be applied in a systematic manner. Government and the energy industry must closely coordinate their preparedness and response efforts.

In short, are the federal government and industry prepared to keep the fuel flowing from the Gulf this hurricane season? The answer to this question must be in the affirmative—and it must be answered in actions and not only words. Today we have experts from the government, industry, and the marketplace to help answer this overarching question. I look forward to hearing from all of you today.

TOM DAVIS, VIRGINIA
CHAIRMAN

CHRISTOPHER SHAYS, CONNECTICUT
DAN BURTON, INDIANA
ILEANA ROS-LEHTINEN, FLORIDA
JOHN M. McHUGH, NEW YORK
JOHN L. MICA, FLORIDA
GIL GUTKNECHT, MINNESOTA
MARK E. SOUDER, INDIANA
STEVEN C. LATOURETTE, OHIO
TODD RUSSELL PLATTS, PENNSYLVANIA
CHRIS CANNON, UTAH
JOHN J. DUNCAN, JR., TENNESSEE
CANDICE MILLER, MICHIGAN
MICHAEL R. TURNER, OHIO
DARRELL ISSA, CALIFORNIA
CHARLES W. DENT, PENNSYLVANIA
VIRGINIA FOXX, NORTH CAROLINA
JEAN SCHMIDT, OHIO

ONE HUNDRED NINTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON GOVERNMENT REFORM

2157 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515–6143

MAJORITY (202) 225–5074
FACSIMILE (202) 225–3974
MINORITY (202) 225–5051
TTY (202) 225–6852

http://reform.house.gov

HENRY A. WAXMAN, CALIFORNIA
RANKING MINORITY MEMBER

TOM LANTOS, CALIFORNIA
MAJOR R. OWENS, NEW YORK
EDOLPHUS TOWNS, NEW YORK
PAUL E. KANJORSKI, PENNSYLVANIA
CAROLYN B. MALONEY, NEW YORK
ELIJAH E. CUMMINGS, MARYLAND
DENNIS J. KUCINICH, OHIO
DANNY K. DAVIS, ILLINOIS
WM. LACY CLAY, MISSOURI
DIANE E. WATSON, CALIFORNIA
STEPHEN F. LYNCH, MASSACHUSETTS
CHRIS VAN HOLLEN, MARYLAND
LINDA T. SANCHEZ, CALIFORNIA
C.A. DUTCH RUPPERSBERGER, MARYLAND
BRIAN HIGGINS, NEW YORK
ELEANOR HOLMES NORTON, DISTRICT OF COLUMBIA

BERNARD SANDERS, VERMONT
INDEPENDENT

COMMITTEE ON GOVERNMENT REFORM

SUBCOMMITTEE ON ENERGY AND RESOURCES

DARRELL ISSA, CHAIRMAN

Will Hold an Oversight Hearing:
"Keeping the Fuel Flowing from the Gulf: Are We Prepared for the Hurricane Season?"
June 7, 2006, 2:00 p.m.
Room 2203 Rayburn House Office Building

WITNESS

Panel 1

General David L. Johnson
Director,
National Weather Service, NOAA

Admiral Thomas Barrett
Administrator,
Pipeline & Hazardous Materials Safety Administration,
Department of Transportation

The Honorable Guy Caruso
Administrator,
Energy Information Administration

Panel 2

Mr. Robert Greco
Group Director of Upstream and Industry Operations,
American Petroleum Institute

Mr. Tyson Slocum
Energy Program Research Director,
Public Citizen

COMMITTEE ON GOVERNMENT REFORM
Subcommittee on Energy and Resources
DARRELL ISSA, CHAIRMAN

Oversight Hearing:
"Keeping the Fuel Flowing from the Gulf: Are We Prepared for the Hurricane Season?"
June 7, 2006, 2:00 p.m.
Room 2203 Rayburn Building

BRIEFING MEMORANDUM

SUMMARY:

In the aftermath of Hurricanes Katrina and Rita in 2005, oil and natural gas production from the Gulf of Mexico were "shut-in" or offline for months; pipelines and refineries were shut down; some retail gas stations ran short of fuel in other parts of the country due to delays and shortfalls in deliveries; and the prices for oil, refined products, and natural gas skyrocketed. Some areas of the country were within days of widespread supply shortages of refined products such as gasoline, aviation, and diesel fuel. It was only through great ingenuity and sacrifice by personnel from government and industry that significant shortages did not occur.

For the 2006 Atlantic hurricane season, the National Oceanic and Atmospheric Administration (NOAA) is predicting 13 to 16 named storms, with eight to 10 becoming hurricanes, of which four to six could become major hurricanes of Category 3 strength or higher. According to meteorologists at Colorado State University, there is an average 38 percent chance of the area from the Florida panhandle westward to Brownsville, Texas, being hit by a Category 3, 4, or 5 hurricane in 2006.

The Gulf of Mexico region is critical to the nation's economic growth because it is the backbone of our energy infrastructure. According to the Federal Reserve Bank of Dallas' Houston Branch, 26.4 percent of the nation's domestic crude oil production and 21.3 percent of natural gas production takes place in the Gulf of Mexico. Almost 40 percent of the nation's crude oil refining capacity is located on the Gulf Coast.

Clearly, the federal government and the petroleum and natural gas industries must apply crucial lessons learned from last year, and the private energy sector must be prepared to coordinate with the federal and local governments in times of crisis. With the current US average gasoline price already exceeding $2.90 per gallon, the implications of not meeting the 2006 preparedness challenge would be disastrous. This hearing will examine how industry and government are prepared to transport and deliver fuel supplies from the Gulf of Mexico to where they are needed this hurricane season.

BACKGROUND:

The Gulf of Mexico's Importance to the Nation

The Gulf of Mexico region is critical to the nation's economic growth because it is the backbone of US energy infrastructure. According to the Federal Reserve Bank of Dallas' Houston Branch, 26.4 percent of the nation's domestic crude oil production and 21.3 percent of natural gas production takes place in the Gulf of Mexico. Almost 40 percent of the nation's crude oil refining capacity is located on the Gulf Coast. The proportion of crude oil refined by the Texas and Louisiana Gulf Coast is larger than the share refined by the East Coast, West Coast, and Great Lakes regions combined. In terms of natural gas processing capacity, which removes impurities from natural gas and separates natural gas liquids used in petrochemical processing, the Gulf Coast accounts for 34.5 percent of US capacity.

Because so much production and processing capacity and infrastructure is located in the central and western Gulf region, which has a relatively small population, other regions of the country are dependent on the Gulf for essential fuels. Even those regions that do not receive much product from the region are affected greatly when production or delivery of fuels is interrupted from the Gulf region because of the interdependence of markets, particularly in petroleum products. A significant portion of the Gulf coast's petroleum products—gasoline, diesel, and jet fuel—is shipped to Eastern US markets through the Colonial and Plantation pipelines or transported to Midwest markets by pipeline or the Mississippi River. The mid-Atlantic and Southeastern US are particularly dependent on the Gulf for petroleum products, as demonstrated by the level of gasoline price increases in the immediate aftermath of Hurricane Katrina.

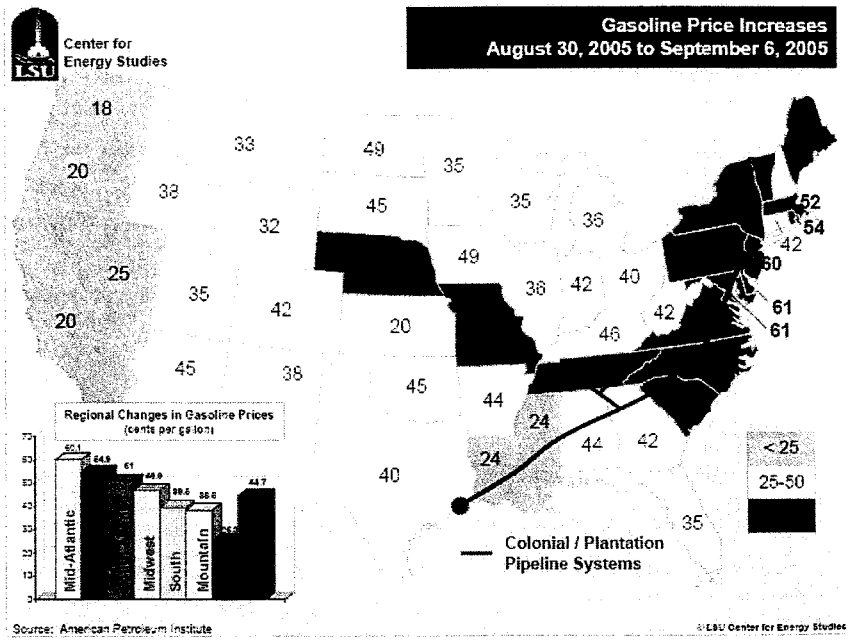
Hurricanes Katrina and Rita

According to data compiled by the American Petroleum Institute from the Department of Energy and the Department of Interior's Minerals Management Service (MMS) reports, the highest level of shut down production was 29 percent of US refining capacity as a result of Katrina and Rita. As of May 31, 2006, about 3.3 percent of U.S. refining capacity was not yet fully operational. Approximately 30 percent of oil production and 21 percent of natural gas production was shut-in by the hurricanes. As of May 31, 2006, less than 7 percent of oil production and less than 3 percent of natural gas production remained shut-in.

The magnitude of Hurricanes Katrina and Rita demonstrated that the whole supply chain for petroleum and natural gas products are at risk from tropical storms. Industry and government are well-practiced in dealing with offshore emergency measures for personnel and equipment involved in the production and transportation of fuels—in 2004 Hurricane Ivan demonstrated that underwater pipelines were vulnerable to storms to a degree that was not thought to be possible. However, Katrina and Rita affected offshore platforms and equipment beyond established parameters, and new standards and tolerances are being created by industry. Onshore, the hurricanes inundated refineries and gas processing units with water, obliterated communications systems, and interrupted the power supply that is essential to the pipelines that transport liquid fuels. Some areas were within hours of a

shortfall in the supply of critical fuels, and only determined efforts on the part of government and industry personnel prevented widespread shortages.

In the wake of Hurricane Katrina, loans of crude oil were offered from the Strategic Petroleum Reserve by the federal government. However, only about one-third of SPR crude that was offered was in fact loaned, because there was not enough undamaged refining capacity to process it. A key question entering this hurricane season is whether there are enough private inventories of refined fuels to be transported and delivered if refinery production is significantly curtailed or shut down again.[1] Much of the federal government's efforts to get energy production and facilities back online was in a coordinating role and in applying waivers to existing law and regulations. For example, waivers were made with the Department of Transportation for truck driver hours and the transport of huge generators for emergency pipeline power, with the Environmental Protection Agency for Clean Air Act suspensions for gasoline and diesel fuel, with the Department of Homeland Security and the Coast Guard for the Jones Act so that foreign tankers could be utilized, and the Federal Energy Regulatory Commission for utilities reporting requirements and emergency maintenance and repairs to transmission lines. This list is not exhaustive and does not account for state waivers and requirements, although the federal government was involved in these coordination activities as well.



[1] Since the early 1990s, industry has not kept high levels of reserves and utilizes what can be termed "just-in time" inventories for delivery.

The 2006 Hurricane Season

The lessons learned by government and industry from the hurricanes of the last few years are only now being applied. This is particularly important because the forecast for the current hurricane season is above average in terms of the number of tropical storms—NOAA anticipates there is an 80 percent chance activity will be above normal. For the 2006 Atlantic hurricane season (June 1 to November 30), NOAA predicts 13 to 16 named storms, with eight to 10 becoming hurricanes, of which four to six could become major hurricanes of Category 3 strength or higher. According to the early hurricane forecast of Dr. William Gray of Colorado State University, there will be 17 named storms, and 9 hurricanes of which 5 are a category 3 or higher. According to Gray and a coauthor, there is an average 38 percent chance of the area from the Florida panhandle westward to Brownsville, Texas, being hit by a Category 3, 4, or 5 hurricane in 2006.

ISSUES TO BE ADDRESSED AT THE HEARING:

- Are the government and the energy industry prepared to meet the fuel supply challenges of the 2006 hurricane season?
- What is the status of fuel production and inventories entering the summer and hurricane seasons?
- What are the lessons learned from the hurricanes of 2005, and how have they been incorporated into planning and best practices for 2006?
- How are the federal government and private industry coordinating with each other, as well as with state and local governments?
- Besides actions taken for the current hurricane season, what measures are government and industry taking to address preparedness for the long-term?

Witnesses:

Panel 1

General David L. Johnson, Director, National Weather Service, NOAA

Mr. Guy Caruso, Administrator, Energy Information Administration

Admiral Thomas Barrett, Administrator, Pipeline & Hazardous Materials Safety Administration, Department of Transportation

Panel 2

Mr. Robert Greco, Group Director of Upstream and Industry Operations, American Petroleum Institute

Mr. Tyson Slocum, Energy Program Research Director, Public Citizen

Staff Contact:
Larry Brady, Staff Director
Subcommittee on Energy and Resources
B-349C Rayburn House Office Building
202.225.6427 / 202.225.2392 fax

Mr. ISSA. I look forward to hearing from our distinguished panel today. When our ranking member is able to join us, we will undoubtedly pause, if she would like, for her opening remarks. Since we have no other requests for opening statements, I would ask that each of the witnesses stand, along with anyone who is going to provide information, to take the oath, as is required by this committee.

[Witnesses sworn.]

Mr. ISSA. Let the record show that three witnesses and four in the back row have all been sworn.

Before we begin, I would like to thank all who have attended.

This is a real showing of the level of interest to have this committee room filled to the brim when, often, subcommittee hearings are echo chambers. I think that speaks well of the gravity of what we are going to hear today. With that, I would like to begin with Gen. Johnson.

STATEMENT OF GENERAL DAVID L. JOHNSON, DIRECTOR, NATIONAL WEATHER SERVICE, NOAA; ADMIRAL THOMAS BARRETT, ADMINISTRATOR, PIPELINE & HAZARDOUS MATERIALS SAFETY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION; AND GUY CARUSO, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION

STATEMENT OF DAVID L. JOHNSON

General JOHNSON. Good afternoon, Mr. Chairman and members of the committee.

I am General David Johnson, Assistant Administrator for Weather Services and the director of the National Weather Service at the National Oceanic and Atmospheric Administration [NOAA], in the Department of Commerce. Thank you for inviting me here today to discuss the outlook for the 2006 Atlantic hurricane season.

Last year's hurricane season set records for the numbers of hurricanes and tropical storms. However, whether you are predicting an above-average hurricane season like this year or even a below-normal season, such as in 1992, the crucial message is the same: prepare, prepare, prepare. It only takes one powerful hurricane like Andrew or Katrina to expose our vulnerabilities.

First, let me express my sincere gratitude to the members of your committee. Your continued support of NOAA and our hurricane program enables us to make the best forecast possible in order to help protect lives, property and livelihoods.

There is a great interest among the media and public in the research community about the upcoming hurricane season. People want to know how many hurricanes there will be and the chances of one hitting their area. This attention generates needed awareness about the potential effects of hurricanes and helps ensure people take the right actions at the right time.

The official hurricane season began just a week ago, on June 1st, and runs officially through November 30th. The average peak activity occurs with the warmest water temperatures from the middle of August to the end of October. NOAA's official prediction for the 2006 Atlantic hurricane season is for 13 to 16 named tropical storms, with 8 to 10 of those storms becoming hurricanes. Of those, we predict four to six will be major hurricanes, or what we call a

category three or higher, packing winds over 110 miles per hour. It is these category three storms that are the ones likely to cause the most extensive damage.

This hurricane season, we are predicting an 80-percent likelihood of an above-average number of storms in the Atlantic basin, and that is the highest probability we have ever predicted in a May outlook.

This high degree of confidence in our seasonal forecast comes from many favorable conditions, including warmer sea surface temperatures in the Atlantic basin, combined with a lower wind shear, low surface pressures, and an African easterly jet stream.

Many believe these favorable conditions, which started coming together around 1995, are part of the multi-decadal climate pattern which peaked in the 1950's and 1960's.

This multi-decadal signal could keep us in an active period for major hurricanes for another 10 to 20 years or more.

One question that is raised frequently is the role of climate change and how that affects hurricane frequency and intensity, and this issue is important to NOAA. Our meteorologists and research scientists are actively engaged in ongoing research to better understand how this climate variability and change may impact hurricane frequency and intensity.

Steering patterns for major hurricane landfalls can sometimes persist over years. During the 1940's, many major hurricanes hit Florida. During the 1950's, the focus of land-falling hurricanes shifted to the U.S. east coast, and during the 1960's, the central and west Gulf States were again hit by hurricanes. This pattern might lead one to assume that, given the recent major hurricanes in 2004 and 2005, Florida and the Gulf coast are likely targets again this season. However, in each of those decades, there were exceptions, with some hurricanes impacting other areas of the coast.

While it is possible to observe these trends and make generalizations, it is important to understand that, in any given year in the Atlantic, a hurricane can impact any part of the U.S. coastline from Texas up to Maine, and it only takes one hurricane over a given community to make a bad year.

In 1983, there was only one land-falling hurricane in the United States, but it was category three Alicia that hit the Houston and Galveston area, and in 1992, we only had one hurricane make landfall in the United States, but that was category five Hurricane Andrew, which hit southern Miami and Dade County, FL.

The message from NOAA's National Weather Service is very consistent.

We want every business, every family, every individual, and every community or industry that operates on or near the coast to have a hurricane preparedness plan and have it in place at the start of the hurricane season.

I must emphasize that any city or community along the coast can be devastated by a hurricane and that a hurricane is not just a coastal event. The strong winds, heavy rains, flooding, and tornados from weakening tropical systems can spread well inland.

The damage created can hinder recovery or continued evacuation efforts, and lead to increased loss of life and property.

While NOAA has made great strides in the accuracy of our hurricane track forecasts, much more work needs to be done, especially on intensity forecasts, and we have been very honest about that.

NOAA has asked outside experts to review our research and our programs to improve our forecast intensity capabilities, and NOAA also continues to test new products and models to improve our overall hurricane forecast.

We do intend to introduce a new hurricane modeling system called the Hurricane Weather Research and Forecasting Model, developed by the National Center for Environmental Prediction. We appreciate the Congress' support of this effort and its overall support for the satellites, the aircraft, the buoys, and most importantly for the people who make these critical forecasts possible.

While NOAA will continue to do its best to provide accurate forecasts with as much warning as possible, it is my hope that each family, each business, and each community on or near the coast will develop and be able to execute a hurricane preparedness plan. We must all be ready to protect lives and property from the power of hurricanes.

I thank you for your time today, sir, and look forward to the questions.

[The prepared statement of General Johnson follows:]

WRITTEN TESTIMONY OF
BRIGADIER GENERAL DAVID L. JOHNSON (U.S. AIR FORCE, RET.)
ASSISTANT ADMINISTRATOR FOR WEATHER SERVICES
AND DIRECTOR OF THE NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U. S. DEPARTMENT OF COMMERCE

HEARING ON
"KEEPING THE FUEL FLOWING FROM THE GULF: ARE WE PREPARED FOR THE HURRICANE SEASON"

BEFORE THE
COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON ENERGY AND RESOURCES
U.S. HOUSE OF REPRESENTATIVES

JUNE 7, 2006

Mr. Chairman and Members of the Committee, I am General David L. Johnson, Assistant Administrator for Weather Services at the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce. Thank you for inviting me here today to discuss the outlook for the 2006 Hurricane Season.

Your support of NOAA and our hurricane program enables us to make the best forecasts possible, helping to ensure the people of our Nation understand the potential effects from hurricanes, and what action they can take to protect their life and property. The FY 2006 Hurricane Supplemental Funding approved by Congress is being used as directed, including funding forecast model improvements, storm surge and inland hurricane forecasting improvements. Thank you again for your support.

Everywhere I go I am asked about the forecast for this hurricane season. People want to know how many hurricanes there will be and if one will hit their area. The media also gives these seasonal forecasts high visibility, and this can have a very positive effect because it raises awareness about the threat from hurricanes and encourages businesses and people to prepare for what might happen.

The official hurricane season started June 1st and goes through November 30th, with the average peak of hurricane activity occurring with the warmest water temperatures, from mid-August to late October. NOAA's prediction for the 2006 Atlantic hurricane season is for 13-16 tropical storms, with eight to 10 becoming hurricanes, of which four to six could become major hurricanes. A major hurricane is a storm Category 3 or higher on the Saffir-Simpson hurricane scale, with winds greater than 110 miles per hour. Major hurricanes cause about 80 percent of the damage sustained from tropical storms.

We are predicting an 80 percent likelihood of an above average number of storms in the Atlantic Basin this season. This is the highest percentage we have ever issued. Our forecast for this season is based primarily on the continuing Multi-Decadal Signal in the global tropics – a climate pattern that has been in place since 1995. Since the mid-1990s, nine of the last 11 hurricane seasons have been above normal, with only two below normal seasons during the El Niño years of 1997 and 2002. This Multi-decadal signal will likely keep us in an active period for major hurricanes for another 10 to 20 years or more.

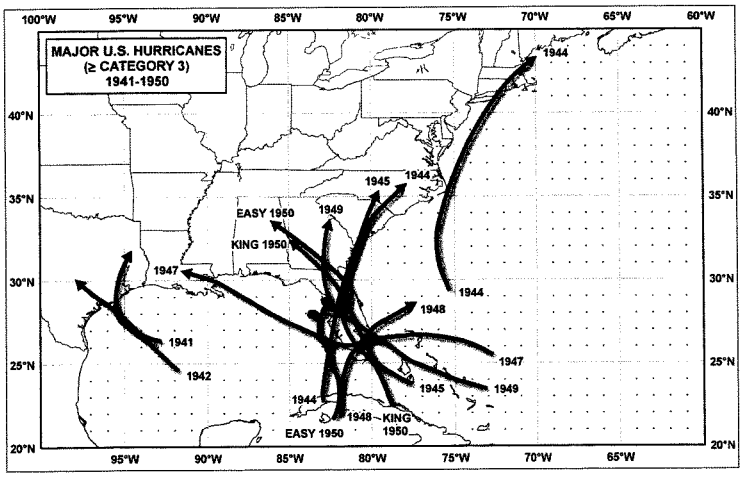
Warmer ocean water temperatures in the tropical Atlantic Ocean and Caribbean combined with expected weaker easterly trade winds and a more favorable wind pattern in the mid-levels of the atmosphere are factors that collectively will favor storms in greater numbers and greater intensity. Warm water is the energy source for storms while favorable wind patterns limit the wind shear that can tear apart a storm's building cloud structure.

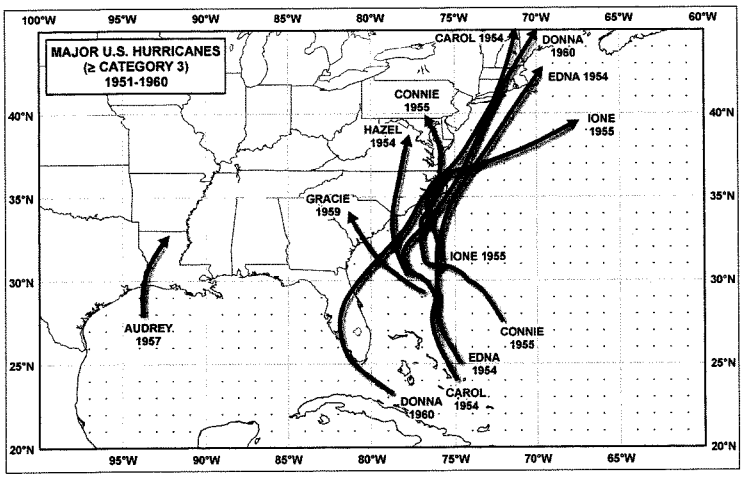
NOAA is actively engaged in ongoing research to understand how climate variability and change may affect hurricane frequency and intensity. For example, climate effects from outside the Atlantic basin, such as El Niño/Southern Oscillation (ENSO), can impact hurricane formation in the Atlantic Basin. This year, however, NOAA scientists predict neutral ENSO conditions, which means neither El Niño conditions (which tend to suppress hurricane formation) nor La Niña conditions (which tend to favor hurricane formation) will be a factor in this year's hurricane season.

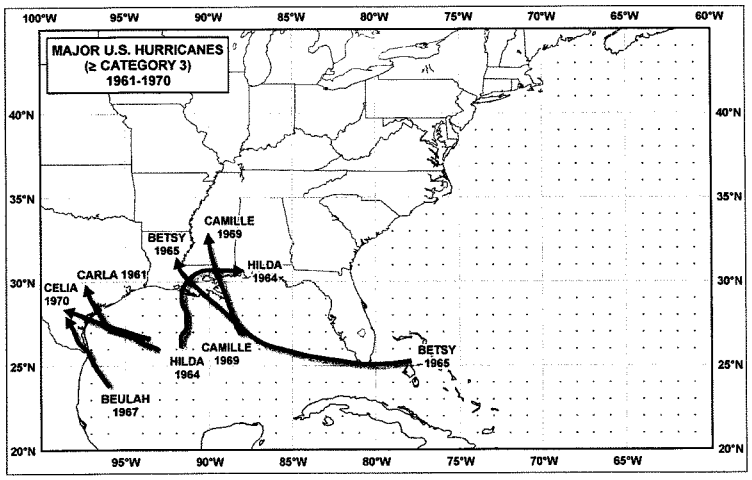
Last year was a record-setting hurricane season, with 28 storms and 15 hurricanes, of which seven were major hurricanes. We know all too vividly the destruction and devastation hurricanes can cause. That is why it is important not to focus only on the total number of storms. The message is clear. We all need to be prepared.

Multi-decadal Climate Patterns

As mentioned above, we have observed that steering patterns for major hurricane landfalls can *sometimes* persist over several years. As shown in the graphics below, during the 1940s many major hurricanes hit Florida. During the 1950s, the focus of land falling hurricane shifted to the U.S. East Coast. During the 1960s, the central and western Gulf Coast were slammed by the hurricanes.


MAJOR U.S. HURRICANES
(≥ CATEGORY 3)
1941-1950
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
40°N
35°N
30°N
25°N
20°N
1944
1945
1944
EASY 1950
1949
KING 1950
1947
1944
1948
1941
1947
1942
1945
1949
1944
1948
KING
1950
EASY 1950


MAJOR U.S. HURRICANES
(≥ CATEGORY 3)
1951-1960
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
40°N
35°N
30°N
25°N
20°N
CAROL 1954
DONNA
1960
EDNA 1954
CONNIE
1955
IONE
1955
HAZEL
1954
GRACIE
1959
IONE 1955
AUDREY.
1957
CONNIE
1955
EDNA
1954
CAROL.
1954
DONNA
1960



This pattern might lead one to assume that – given the recent major hurricanes like Charley, Ivan, Jeanne, Dennis, Katrina, Rita and Wilma in 2004 and 2005 – Florida and the Gulf Coast are likely targets again this season. However, in each of these decades there were exceptions. For example, in the 1940s, while most storms hit Florida, two made landfall in the Gulf, and one made landfall in New England. In addition, in the 1930s, major land falling hurricanes were relatively well distributed along the U.S. coastline – hitting the U.S. coast from Texas to New England. Consequently, while it is possible to observe these trends and make generalizations based upon these observations – it is important to understand that in any given year a hurricane can impact any part of the U.S. coastline from Texas to Maine. Coastal communities along the Gulf and East Coasts (in addition to Hawaii and other interests in the Pacific and Caribbean) remain at risk for hurricanes, and the business community and the public must be prepared to respond if a situation arises.

It only takes one hurricane over a given community to make for a bad year. In 1983, there was only one landfalling hurricane in the United States, but it was Category 3 Hurricane Alicia that hit the Galveston/Houston area. Let's recall 1992. And in 1992, we only had one hurricane make landfall in the United States, but that was Category 5 Hurricane Andrew, which hit southern Miami-Dade County, Florida.

No one can tell us with any reliability, months in advance when or where hurricanes are going to strike. The state of the science is simply not advanced enough at this time to do that. The bottom line is that all coastal states from Texas to Maine, Hawaii, and other U.S. interests in the Pacific and the Caribbean are vulnerable to the devastation brought by a hurricane. The message from NOAA is very consistent. We want every business,

every family, every individual, and every community on or near the coast to have a hurricane preparedness plan and have it in place at the start of hurricane season.

NOAA Efforts to Improve Hurricane Predictions

NOAA is focused on improving hurricane track, intensity, storm surge, and rainfall predictions. The accuracy of NOAA's hurricane forecasts is closely tied to improvements in computer-based numerical weather prediction models. This year NOAA implemented advances in its hurricane forecasting model that are expected to yield improved track and intensity guidance for our forecasters. The Geophysical Fluid Dynamics Laboratory in NOAA's Office of Oceanic and Atmospheric Research (OAR) developed this hurricane model and incorporated it into operations at NWS's National Center for Environmental Prediction (NCEP).

NOAA's Central Computer System upgrade in FY 2007 will increase computational speed, memory, and storage capabilities. This allows more sophisticated numerical models to run and make use of available data, including data from NOAA's polar orbiting and geostationary satellites. We expect significant improvements in intensity, precipitation and wind distribution forecasting from the next generation operational modeling system.

Predicting hurricane intensity remains one of our most difficult forecast challenges. We are all aware of the improvements made in predicting hurricane track forecasts and this has been where NOAA and the research community have, in the past, placed their emphasis. Within the past few years, the emphasis on improving intensity prediction has increased. Leading the way, in FY 2007 NOAA plans to introduce a new hurricane modeling system developed by NCEP's Environmental Modeling Center called the Hurricane Weather Research and Forecasting model (HWRF).

Congress supported this effort in the FY 2006 Hurricane Supplemental Funding, and HWRF implementation and development is included in the FY 2007 President's Budget request. The HWRF will be a coupled atmosphere-ocean prediction system that will take advantage of the latest atmosphere and ocean observations, the most advanced methods to analyze those data, and state of the art physics to produce our Nation's next generation hurricane forecast system. Once the HWRF becomes operational, our goal is to improve hurricane intensity predictions by about 30 percent by 2015.

Hurricane Katrina is a grim reminder that the greatest potential for economic destruction and large loss of life is from the storm surge near the coast. Storm surge is also very difficult to predict because it depends on the hurricane track and wind field, but it also is impacted by bathymetry and natural and man-made barriers, such as dunes and roadways. A slight difference in track or wind field can mean a huge difference in where the highest storm surge impacts the coast.

We believe the NOAA Storm Surge Model, known as SLOSH (Sea, Lake and Overland, Surge from Hurricanes) provided excellent guidance during last year's hurricanes. We

realize many other storm surge models exist, and NOAA recently formed an assessment team to re-examine our users' requirements for real-time storm surge information and products, to direct storm surge modeling within NOAA, and to plan for future enhancement of, or the replacement of, the SLOSH model.

Aircraft Reconnaissance Data

NOAA aircraft, the W-P3 Orions and the Gulf Stream IV, provide essential observations critical to the National Hurricane Center forecasters, and supplement the U.S. Air Force Reserve Command's 53rd Weather Reconnaissance Squadron flights. A specialized instrument flown on both of the W-P3s, the Stepped Frequency Microwave Radiometer (SFMR), was developed by NOAA researchers at AOML and provides essential data on hurricane structure, surface wind and rain rate to hurricane forecasters. The SFMR allows forecasters and researchers to see fluctuations in hurricane intensity not observed before. The Military Construction Appropriations and Emergency Hurricane Supplemental Appropriations Act, 2005 (P.L. 108-324) provided $10.5M to the Air Force to outfit the complete fleet of Hurricane Hunters with this instrument. We hope the first of these additional units will be available toward the end of the 2006 Hurricane Season.

NOAA Encourages Everyone to Prepare

We work year-round with federal, state, and local emergency managers; we educate them about weather effects from hurricanes and they educate us about response issues and their challenges. It is a constant learning process and the key is working together to ensure the public takes appropriate action. Most preparedness activities and outreach takes place outside hurricane season. Last month, as part of our ongoing mission to enhance economic security and national safety, NOAA finished a Hurricane Awareness Tour along the Gulf Coast. The tour helped raise awareness about the potential effects from a hurricane landfall. The National Weather Service forecast offices arranged the tour events with the Federal Emergency Management Agency, local governments, emergency managers, schools, the public and the media in a team effort to increase hurricane awareness and encourage preparedness in this vulnerable area of the nation. During land falling storms, it is essential for the emergency management community and the weather community to have one message for the public so businesses and people can take appropriate action. Nowhere is this more critical than in areas most vulnerable to the impact of a hurricane.

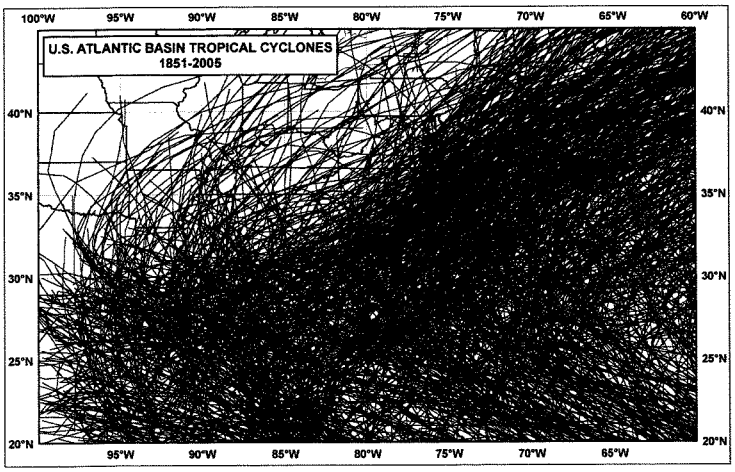
While NOAA will continue to do its best to provide as much warning as possible, it is my hope that each business, each family, and each community, on or near the coast, will develop and be able to execute a hurricane preparedness plan. We must all be ready to protect our lives and property from the power of hurricanes.

Conclusion

The truth is, right now, no one knows exactly what areas of the coast, or which states or locations within those states, if any, a hurricane will hit in 2006. Could it be the Gulf

Coast again? Maybe. How about New England or New York City? That's possible, but, right now we just don't know. We also need to remember a hurricane is not just a coastal event. The strong winds, heavy rains and tornadoes from weakening tropical systems can spread well inland and cause tremendous damage.

The chart below shows the tracks of tropical storms and hurricanes since 1851. I think most people can look at this graphic and understand that the United States is vulnerable to hurricanes. The bottom line is that all coastal states from Texas to Maine, Hawaii, and other U.S. interests in the Pacific and the Caribbean are at risk. Everyone along the coast, including inland communities, must be prepared to protect their lives and property in the event of a hurricane. Thank you.



Mr. ISSA. Thank you, General, and without objection, all of the witnesses' written and oral testimony will be in the record, and without objection, we will also leave the record open for 5 days for additional inclusions or answers that come from today's panel.

Admiral Barrett.

STATEMENT OF THOMAS BARRETT

Admiral BARRETT. Good afternoon, Mr. Chairman. Thank you for your leadership in scheduling this hearing and on this issue, and the invitation to appear and discuss PHMSA's response to last year's hurricanes and our preparedness for this year.

Secretary Mineta is keenly focused on the Department of Transportation's crisis response responsibilities, as I am for Pipeline and Hazardous Materials Safety Administration. In my view, PHMSA personnel and the pipeline industry did a terrific job last year, under very difficult conditions, to keep fuel flowing from the Gulf following the storms. Lessons learned from that experience have helped us prepare for the current season.

Secretary Mineta and PHMSA both understand the role our pipeline transportation systems play in the national energy supply, and the risk of fuel shortages from mid-Atlantic States that could followupon a major storm.

When Katrina and Rita hit last year, PHMSA moved quickly and aggressively to help industry return transmission lines to full service.

As you may be aware, the hurricanes did not do extensive damage to the underground transmission pipelines, and historically, above-ground pipeline facilities have performed well during hurricanes. However, the storms did cause extensive damage to the electric power transmission network that pump stations rely on for power, and restoring power to those major pumps rapidly emerged as the critical issue.

Immediately after landfall of Katrina, PHMSA personnel surveyed damage and monitored pipeline service restoration activities throughout Louisiana, Mississippi, Alabama, and Texas.

Through contacts with pipeline operator and their customers, PHMSA was able to forecast fuel shortages throughout the southeast and mid-Atlantic within 48 hours of landfall. If you will look at the first chart, you can see the storm track up through central Mississippi would have affected a number of major pump stations on both Plantation and Colonial lines, which are major feedings to the northeast.

PHMSA personnel from headquarters were dispatched by Secretary Mineta to provide onsite coordination with local emergency response centers. They worked with the FAA to facilitate emergency fly overs for damage assessments and with the Federal Motor Carrier Safety and Federal Highway Administrations to obtain police escorts and waivers of hours for service and weight restrictions to safely and rapidly move 19 large generators from around the country, as far away as Washington State, to restore pumping capability.

Dedicated PHMSA personnel traveled to remote storm-damaged areas to help industry personnel assure manual pipeline startups were safe. PHMSA issued special permits to Mississippi, Alabama,

Louisiana, Florida, and later, Texas, for Rita, to accommodate emergency transportation, and rescue and relief materials, and facilitate removal of debris.

The bottom line is potential fuel shortages that could have had major impacts up to the mid-Atlanta were averted by rapid response and solid teamwork between industry, PHMSA, FERC, and multiple other Federal, State, and local agencies, and if you look—you can see the track on restoration and how it worked.

This is Katrina, but on the Plantation lines, you can see that, within several days—August 30th would have been Tuesday, so it is 2 days after the storm hit, a day after landfall there. Restoration was crucial and moved rapidly.

On Colonial, you can see the same thing. It took a little longer.

It is a much larger line. This line is over a 2-million-barrel-a-day capacity, and so, it took a little longer to restore, but it was promptly brought back in service.

Following the experience of the 2005 season, we have looked at lessons learned and steps we could take to prepare for future challenges. Our approach will be to analyze risk prior to an event, bring rapid assessment of potential impacts, help mitigate releases, facilitate safe restoration of fuel supply, and approve special permits as warranted to facilitate movement of supplies.

We have been meeting regularly with the pipeline industry, FERC, DHS, DOE, and FEMA officials to execute responsibilities under the national response plan. Our regional and headquarters personnel have participated in numerous drills and training exercises to more effectively deal with potential emergencies.

In the office of our chief safety officer, we have established a new focal point for security and emergency preparedness.

Last week, Secretary Mineta visited the Gulf coast to discuss with State and local leaders ways to improve large-scale emergency response plans. In addition, PHMSA staff met with Mississippi and Louisiana officials, including the staffs of Governor Barbour and Governor Blanco, to discuss emergency response actions, held discussions with the Mississippi Emergency Management Agency, the Louisiana Department of Natural Resources, Louisiana Department of Homeland Security, on the best ways to resolve potential pipeline and related transportation emergencies, and we intend to continue those meetings with local officials in other States as we move forward.

Mr. Chairman, like you, DOT and PHMSA are committed to safe operation of our Nation's pipeline transportation system under both normal and emergent conditions. We understand how important this is to our economy and to the safety and security of our citizens.

I will be glad to respond to questions, and I thank you and the committee for your interest and attention on this issue.

[The prepared statement of Admiral Barrett follows:]

Committee on Government Reform
Subcommittee on Energy and Resources

UNITED STATES HOUSE OF REPRESENTATIVES

Oversight Hearing on Government/Industry Preparedness for the 2006 Hurricane Season

Written Statement of VADM Thomas J. Barrett, USCG (ret.)
Administrator
Pipeline & Hazardous Materials Safety Administration
U.S. Department Of Transportation

Expected Delivery 2:00 p.m. EST
June 7, 2006

WRITTEN STATEMENT OF VADM THOMAS J. BARRETT, USCG (RET.)
ADMINISTRATOR
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
U.S. DEPARTMENT OF TRANSPORTATION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND RESOURCES
COMMITTEE ON GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES

June 7, 2006

I. INTRODUCTION

Chairman Issa, Ranking Member Watson, members of the Subcommittee, I want to thank you for the invitation to appear today to discuss our agency's response to last year's devastating hurricane season. Events like this remind us of the critical importance America's pipeline transportation system plays in supporting our nation, our economy, and our way of life. Over 97 percent of America's transportation energy needs are met by petroleum products, and 64 percent of the nation's energy products move through our country's pipeline network.

The Department of Transportation and Pipeline and Hazardous Materials Safety Administration has a new perspective regarding response to pipeline issues following Hurricanes Katrina and Rita. Our experience in dealing with last year's storms has also helped prepare us for the upcoming 2006 and future hurricane seasons.

Hurricanes Katrina and Rita dealt a devastating blow to the Gulf area states resulting in heavy destruction, numerous power outages and refinery shutdowns. Each hurricane caused a shutdown of the Louisiana Offshore

Oil Port as well as a number of major crude, product and gas pipelines. Although these events took place within the Gulf area states, the resulting disruptions of our energy supply chain were felt from Texas up to and throughout the east coast.

II. CRITICAL COMMUNICATION

Prior to the hurricanes, PHMSA established 24-7 contacts with pipeline operators. In addition, we and activated and staffed our position at the Department's Crisis Management Center. Secretary Mineta and PHMSA examined the potential impact of a fuel shortage in Louisiana, Mississippi, and the Southeastern and Mid-Atlantic States, as did our state partners. PHMSA anticipated effects on pipeline operations and pre-positioned pipeline safety inspectors in the Gulf to make any needed safety calls and provide assistance to operators and state agencies. We advised all pipeline operators in the affected region to take precautions to secure their systems.

Immediately after landfall, we sent staff to the areas impacted by the hurricanes where we surveyed damage and monitored pipeline service restoration activities throughout Louisiana, Mississippi, Alabama and Texas. We deployed inspectors to all sites in which pipelines were being operated manually. PHMSA immediately coordinated obtaining fuel for relief operations in Louisiana and Mississippi and assessed where future supplies would soon become critical beyond the affected areas.

My deputy administrator was assigned as one of Secretary Mineta's personal representatives to serve DOT support duties at the federal Joint Field Office in Jackson, MS, and later in Austin, TX. While there the Department and PHMSA were able to provide "hands-on" support to federal and state operational commands to effectively direct transportation relief efforts for disaster locations where they were most needed.

After assuring the safety of our own employees, our first priority was assisting pipeline operators in restoring the flow of vital products in order to ensure an adequate supply of energy to power relief efforts. Through our contacts with operators and their customers, we forecasted and targeted threatened fuel shortages. PHMSA predicted fuel shortages would occur at numerous locations throughout the southeast within 48 hours of Katrina's landfall without the restoration of power. To mitigate the potential crisis, PHMSA coordinated with our DOT counterparts in the Federal Motor Carrier Safety and Federal Highway Administrations. We obtained police escorts and waivers for hours of service and weight restrictions to guarantee the uninterrupted and safe arrival of 19 generators and other equipment to hurricane stricken areas. The equipment was shipped from 12 locations around the US, including as far away as Tacoma, WA and was used to provide temporary power relief for rural pumping stations and truck loading facilities impacted by the storm.

PHMSA coordinated with the Federal Aviation Administration to allow emergency flyovers of pipeline facilities and right-of-ways through protected airspace to conduct damage assessments of vital infrastructure.

We issued Emergency Hazardous Materials Exemptions in the states of Mississippi, Louisiana, Alabama, and Florida to transport hazardous materials under the authority of state, local, and federal officials within restrictions stipulated by officials in each of the affected areas. These emergency exemptions authorized the temporary transportation of hazardous materials such as propane for energy usage in generators and temporary housing.

Getting full power restored to pumping stations was crucial to avoiding widespread gasoline, diesel and jet-fuel shortages. Once the pipelines were operating at full capacity, our next task was filling the gaps in supply that the damaged refineries could not fill.

To help prioritize power restoration to fuel supply, we coordinated with the Federal Energy Regulatory Commission and the Department of Energy to facilitate the restoration of power to electrical grids for fuel transmission and distribution sites in Louisiana and Mississippi. In one case, this meant acquiring temporary power from a neighboring power company that could provide relief faster than a smaller power cooperative. In another case, main electrical transmission lines had to be rebuilt overnight. We also coordinated our assessment efforts with the Department of Interior to analyze and restore production to offshore platforms. I would like to publicly acknowledge each of the federal agencies involved for their support. I would also like to publicly acknowledge non-stop efforts of

CenterPoint Energy, Southern Company, and Entergy Corporation and their employees.

When refinery supplies in storage were exhausted, we provided assistance in rerouting fuel to make better use of capacity that would have gone unused due to disruption of Louisiana refineries. We facilitated efforts through the Department of Energy and the Port Authorities of Lake Charles, LA; Pascagoula, MS; Mobile, AL; and Richmond, VA to allow marine vessels to unload refined products into a major pipeline serving the South and Mid-Atlantic States.

Without this prompt action, the country could have experienced severe shortages of gasoline, diesel and jet fuel throughout the Southeast and Mid-Atlantic States. Instead, we assisted in augmenting and restoring power supplies allowing pipeline companies to operate at 50 percent capacity within three days of identifying the problem and to full operating capacity within a week of each storm's landfall.

We worked with the Common Ground Alliance and our underground utility damage prevention partners to ensure recovery operations were safe and excavation damage to existing utilities was minimal.

We averted potential fuel shortages following the hurricanes. The fast action and teamwork between the Department's of Transportation, Energy and Interior; Louisiana, Mississippi, and Texas state and local governments; and PHMSA pipeline industry partners led to restarting critical energy

facilities by providing power for diesel generators at local hospitals, supporting emergency relief operations and providing critical gasoline supplies for the Federal Emergency Management Agency and local authorities.

III. THREE CRITICAL FACTORS

I can speak to three critical factors that contributed to our success:

1) Because of our knowledge of, and relationships with the pipeline and hazardous materials industries, PHMSA was able to help assess damage, facilitate solutions and measure progress. PHMSA utilized its historical and fundamental knowledge in pipeline location, product, storage, markets and capacity, which was critical for us to define the problems and develop solutions.

2) We improved communication capacity within PHMSA by providing additional communication equipment, such as satellite phones, high-frequency long-range two-way radios, and other advanced technologies.

3) Relationships forged through ongoing work with industry, state governments, and federal agencies positioned PHMSA to respond effectively in the crisis and to facilitate 24-7 communications capabilities between our PHMSA team, other DOT agencies, pipeline operators, state agencies, and most importantly, our federal family members whose work is interrelated to ours.

Thanks to these fundamentals and the teamwork of everyone involved at the federal, state and local level, pipelines were soon operating safely in the wake of Hurricanes Katrina and Rita, and within all communities they served.

IV. WE ARE PREPARED

We know our effectiveness this year in dealing with potential emergency situations weighs heavily on advanced preparation. The Department is committed to ensuring the states affected by last year's storms are adequately prepared to deal with another major catastrophe. Following the experience of the 2005 hurricane season, we looked at what worked, our lessons learned, and evaluated steps we could take to better prepare to face future challenges.

Just a week ago, Secretary Mineta visited the Gulf Coast to provide recommendations to state and local leaders on ways to improve large scale emergency evacuation plans for all forms of transportation. The Department's Report to Congress evaluating emergency evacuation plans for the Gulf Coast reminds states of the need to develop plans to effectively coordinate the mass evacuation of all communities and involve transportation planning experts in state and regional evacuation planning and drills.

In addition, last week PHMSA visited with key Mississippi and Louisiana officials to discuss past, present and future federal, state and local government emergency response plans. The team met with the staffs of Mississippi Governor Barbour and Louisiana Governor Blanco, as well as officials from the Mississippi Emergency Management Agency, Louisiana Department of Natural Resources and the Louisiana Office of Homeland Security and Emergency Preparedness. We now understand each state and agency's level of preparedness for dealing with the upcoming season and how the Department and PHMSA can support their needs to resolve any prospective transportation emergencies.

We are integrated more fully with the Departments of Energy and Homeland Security to be better prepared this year. PHMSA regional and headquarters personnel participated in hurricane drills and are receiving training for emergency response. In addition, we continue to consult with our stakeholders in government and the private sector to coordinate response capabilities and resources.

We appreciate the close working relationship we now have with the National Oceanic Atmospheric Administration, which now provides us with sufficient GIS intelligence on the predicted path of storms to allow for more timely and accurate emergency preparations by pipeline operators.

We also improved coordination efforts with our federal and state partners by more clearly defining our role, responsibilities, and resource availability.

Within the office of the chief safety officer, PHMSA has a new focal point for security and emergency preparedness to coordinate and enhance the agency's response efforts to multiple national disasters.

We will seek expanded authority for emergency waivers of pipeline regulations. The expanded authority will allow us to grant certain waivers and otherwise allow us to respond better in future emergency situations.

We know the pipeline industry will also be a lot more prepared. Operators have taken similar steps to prepare for the 2006 hurricane season through revised emergency plans and procedures with a special focus on hurricanes; new procedures to preposition resources, people and supplies at critical facilities; and locating critical supplies and power generated equipment to augment future emergency power supply needs.

V. CLOSING

The experience of last year's hurricanes has increased the recognition of pipelines as the nation's energy highways. Our nation, our economy, and our way of life depend on the pipeline transportation system.

DOT and PHMSA are committed to the safe operation of our nation's pipeline infrastructure. This infrastructure remains a key component in ensuring our economy remains strong and prosperous and our citizens remain safe and secure.

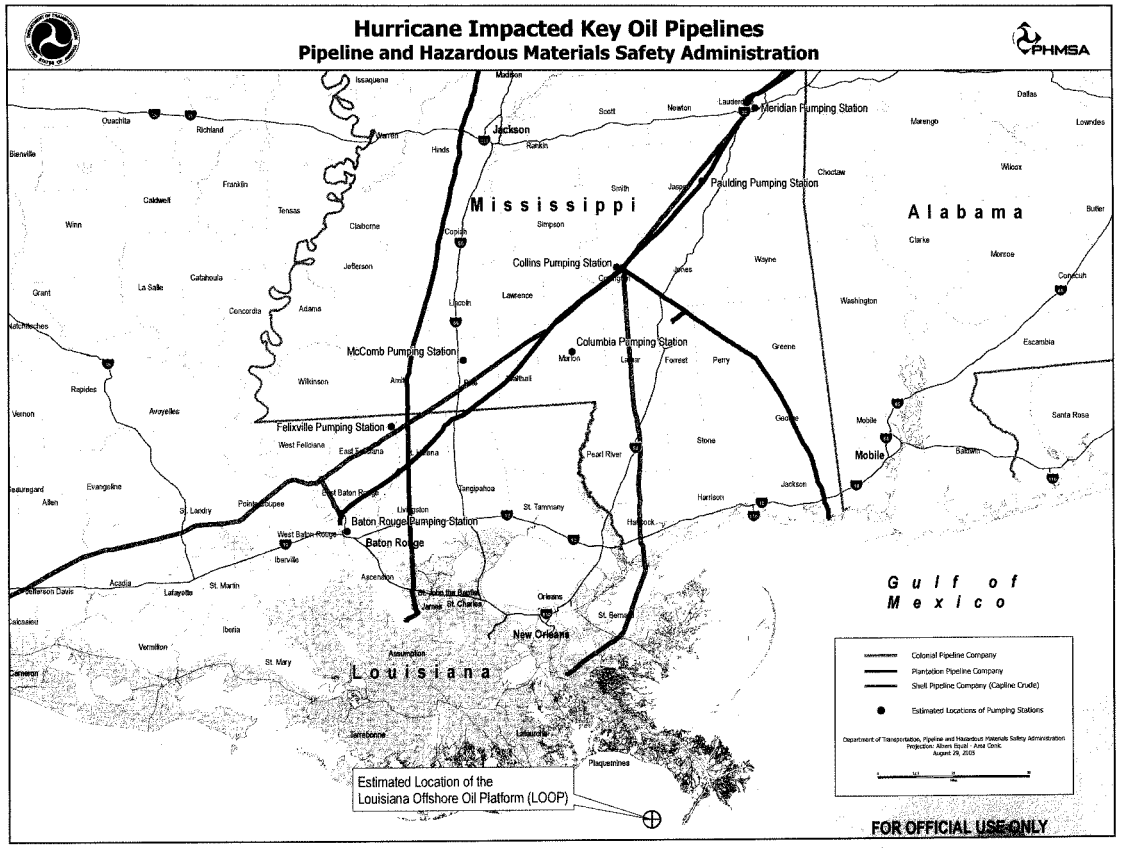
Although we were able to recover from the storms and their impact on American consumers, we must always be concerned about meeting future transportation needs, whether they arise in the midst of natural disasters or through growth in demand.

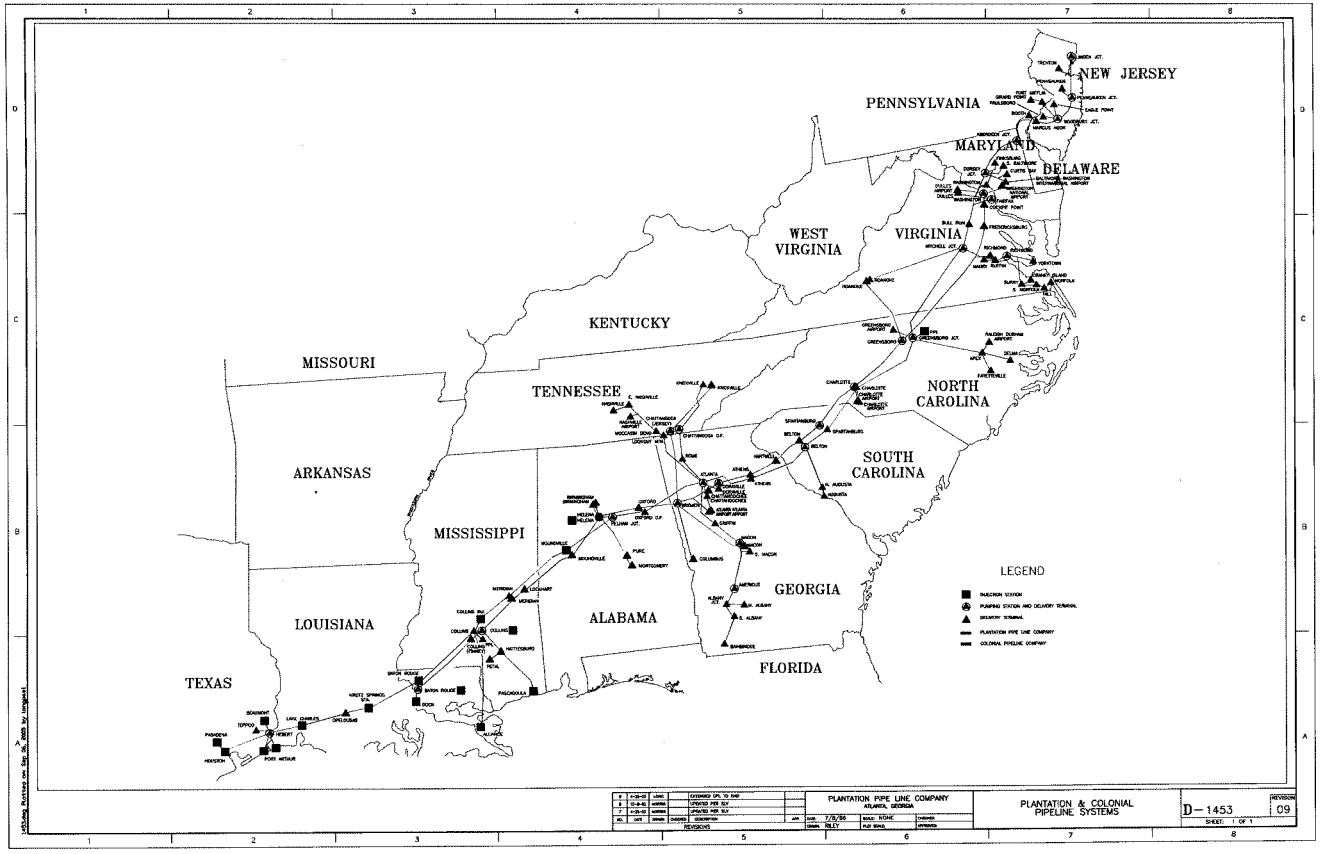
Secretary Mineta has identified the goal of reducing transportation congestion as a top priority of the Department. As we work to relieve congestion across all modes of transportation, we will review congestion in our transportation pipelines.

In my many years in public service, I have rarely seen such a remarkable display of devotion and determination in the face of some insurmountable odds as shown by the men and women of PHMSA. I am very proud to be the first administrator appointed to lead this team of dedicated public servants.

Thank you again for this opportunity today. I am happy to take your questions.

###


Hurricane Impacted Key Oil Pipelines
Pipeline and Hazardous Materials Safety Administration
PHMSA
Meridian Pumping Station
Paulding Pumping Station
Collins Pumping Station
Columbia Pumping Station
McComb Pumping Station
Felixville Pumping Station
Baton Rouge Pumping Station
Baton Rouge
Jackson
New Orleans
Mobile
Mississippi
Alabama
Louisiana
Gulf of Mexico
Colonial Pipeline Company
Plantation Pipeline Company
Shell Pipeline Company (Capline Crude)
Estimated Locations of Pumping Stations
Estimated Location of the Louisiana Offshore Oil Platform (LOOP)
FOR OFFICIAL USE ONLY


NEW JERSEY
PENNSYLVANIA
MARYLAND
DELAWARE
WEST VIRGINIA
VIRGINIA
KENTUCKY
MISSOURI
TENNESSEE
NORTH CAROLINA
ARKANSAS
SOUTH CAROLINA
MISSISSIPPI
GEORGIA
LOUISIANA
ALABAMA
FLORIDA
TEXAS
LEGEND
PLANTATION PIPE LINE COMPANY
ATLANTA, GEORGIA
PLANTATION & COLONIAL PIPELINE SYSTEMS
D-1453
09
REVISIONS

Mr. ISSA. Thank you, Admiral.

Mr. Caruso.

STATEMENT OF GUY CARUSO

Mr. CARUSO. Thank you, Mr. Chairman, and I appreciate the opportunity to present the Energy Information Administration's energy market outlook and discuss the potential effects of the hurricane season. As you know, EIA is the independent statistical and analytical agency in the Department of Energy.

As of today, we released our Short-term Energy Outlook for June, and we see crude oil prices continuing to rise this year and into next year. As you know, they are set in international markets based on world oil supply and demand, and recently, strong economic growth worldwide has accelerated the demand growth, while global production capacity has struggled to keep pace. This is an industry straining to meet the demand it is facing.

At the same time, the perceived risk to supply caused by political instability and other factors, such as natural disasters, continually affect the market.

In our current short-term outlook, the monthly average price of crude oil is expected to average $68 per barrel in 2006 and 2007, with retail gasoline prices projected to average $2.60 per gallon in both years. Looking at the 2006 summer driving season, we expect gasoline to average about $2.75 per gallon, nearly 40 cents higher than last summer.

U.S. crude oil production should increase this year, recovering from last year's hurricane damage, but only moderate increases in both OPEC and overall non-OPEC production are expected.

At the same time, world demand for oil is expected to increase by 1.7 million barrels per day in 2006, and 1.9 million barrels per day in 2007, with China accounting for about half-a-million barrels a day of the growth in both years.

Limited surplus capacity and concerns about potential supply problems, not only due to natural disasters but geo-political events, continue to keep upward pressure on oil prices.

Turning to natural gas, total demand in 2006 is expected to be slightly lower than last year, due mostly to the mild winter conditions that reduced heating needs earlier this year.

However, industrial demand is expected to increase with the recovery in the natural gas-intensive industries following last year's hurricanes.

It is important to note that our projections do not include any production losses or outages from hurricanes this season.

However, significant amounts of U.S. oil and natural gas production and refining capacity are potentially vulnerable to hurricane-related disruption. In 2004, the federally administered areas in the Gulf of Mexico contributed 27 percent of the total U.S. crude oil production and 20 percent of total natural gas.

There was also significant production in the off-shore and on-shore of the State administered areas in Alabama, Louisiana, Mississippi, and Texas.

In addition, Gulf coast States account for more than 46 percent of U.S. refinery capacity.

Hurricanes Katrina and Rita passed through the heart of the Gulf producing region.

According to the Minerals Management Service, as of June 1st this year, total production of crude has been reduced by more than 160 million barrels, and production of gas by nearly 800 billion cubic feet due to the effect of last year's hurricanes. That amounts to about 30 percent and 21 percent of a normal year's oil and natural gas production from the Federal off-shore fields.

About 228,000 barrels a day of Gulf production and 1.1 billion cubic feet per day of natural gas still remain off-line, some permanently.

At the height of the refinery outages in late September, nearly 30 percent of U.S. refinery capacity and over 60 percent of refinery capacity in the Gulf coast region were shut down. From August 26th through the end of 2005, about 105 million barrels of refined products were not produced as a result of refinery shutdowns. In addition, some refinery maintenance that would normally have occurred last fall was deferred to this spring.

The effects of Katrina and Rita and, to a lesser extent, Hurricane Ivan in 2004 were unusually severe compared to past experience.

As discussed in my written testimony, the impacts of Katrina and Rita on refinery operations were even more exceptional, pushing the normalized index of refinery capacity utilization in the Gulf coast during October and September far below levels experienced at any time over the past 20 years.

As General Johnson has just detailed, NOAA has issued its preliminary outlook for this year's hurricane season, with an 80-percent probability of above-average hurricane—number of hurricanes, and particularly major hurricanes. There is considerable uncertainty, as General Johnson has indicated, in predicting disruptions to oil and natural gas operations due to hurricanes, because it depends on the precise locations and intensities of the storm. However, based on our analysis of the last 45 years of production losses and taking into account the current NOAA forecast, we expect the total reduction in crude production from Federal off-shore to range from zero to 35 million barrels during this hurricane season, with a reduction in natural gas ranging from zero to 206 billion cubic feet.

In addition to the potential damage from production—to production and refinery operations, hurricanes have other potential effects, such as disruptions in transportation, as Admiral Barrett has just indicated, electric power supply, and other necessary infrastructure.

Last year, EIA assisted DOE's Office of Energy Delivery and Energy Reliability, and the Office of Fossil Energy, in their emergency response efforts during the hurricane season. We stand ready again to support them and the agencies represented at this table, and others, in responding to any potential disruptions this year.

Mr. Chairman, this completes my oral testimony, and I would be happy to answer questions at the proper time.

[The prepared statement of Mr. Caruso follows:]

STATEMENT OF GUY CARUSO

ADMINISTRATOR

ENERGY INFORMATION ADMINISTRATION

U.S. DEPARTMENT OF ENERGY

before the

SUBCOMMITTEE ON ENERGY AND RESOURCES

COMMITTEE ON GOVERNMENT REFORM

U. S. HOUSE OF REPRESENTATIVES

JUNE 7, 2006

Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today. The Energy Information Administration (EIA) is the independent statistical and analytical agency within the Department of Energy. We are charged with providing objective, timely, and relevant data, analyses, and projections for the use of the Congress, the Administration, and the public. While we do not take positions on policy issues, our work can assist energy policymakers in their deliberations. Because we have an element of statutory independence with respect to our activities, our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

Much of my testimony today is based on EIA's June 2006 *Short-Term Energy Outlook*, which was issued on June 6. The *Outlook* contains a special report that reviews the past impacts of hurricanes in the Gulf of Mexico on crude oil and natural gas production. Before turning to the outlook for the summer and the hurricane season, I will briefly review the major forces affecting world energy markets and, in particular, oil markets.

Oil market developments are a matter of vital interest to all Americans. During most of the 1990s, the West Texas Intermediate (WTI) crude oil price averaged close to $20 per barrel, but plunged to almost $10 per barrel in late 1998 as a result of the Asian financial crisis slowing demand growth while extra supply from Iraq was entering the market for the first time since the Gulf War. Subsequently, as Organization of Petroleum Exporting Countries (OPEC) producers adhered to a coordinated production quota and reduced output, crude oil prices not only recovered, but increased to about $30 per barrel as

demand grew. The most recent increase in crude oil prices began in 2004, when they almost doubled from 2003 levels, rising from about $30 per barrel at the end of 2003 to peak at $56.37 on October 26, 2004. After falling back briefly, prices then continued to rise in 2005 and in the early months of 2006. For much of this May, we saw WTI prices above $70 per barrel. This is a significant change from what we experienced during the latter half of the 1980s and the 1990s.

In recent testimony before another House committee, I outlined EIA's perspective on the forces driving crude oil prices in today's marketplace. To summarize briefly, crude oil prices are set in the global marketplace and largely reflect the fundamentals that determine supply and demand. In recent years, increases in global oil production capacity have struggled to keep pace with rapidly growing demand, particularly in China, the other emerging economies in Asia, and the United States. That slower growth in productive capacity relative to growth in demand has resulted in a decline in global surplus capacity to produce crude oil. At the same time, perceived risks to supply posed by geopolitical instability and other uncertainties have grown. In the present environment, with a minimal cushion of surplus production and refining capacity to meet disruptions in supply and with futures markets in many cases showing prices for commodities delivered in future months that are higher than for those delivered in months closer to the present, market participants have a strong demand for inventories. Absent an unexpected downturn in global economic activity, neither demand-side nor supply-side corrections will come quickly; thus, crude oil prices are expected to remain at relatively high levels, supporting high gasoline prices for the foreseeable future.

In the past few years a great deal of attention has been turned toward the importance of the refining sector, especially following the hurricanes last year. The storm-related shutdown of many Gulf Coast refineries highlighted a situation that had been developing for some time. Excess capacity in the refining industry, like that for crude oil production, has been shrinking as demand has grown, leaving less of a buffer for emergencies or for any periods when the balance between supply and demand becomes unusually tight. The reduction in excess refining capacity is a global phenomenon. EIA estimates that global refinery utilization has grown to about 90 percent of capacity, up from 85 percent as recently as 2002, as the overall growth in demand for petroleum products has outpaced refinery additions.

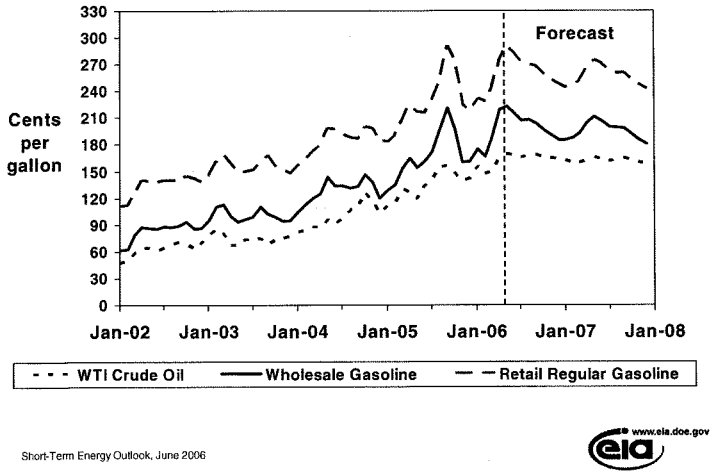
The Short-Term Energy Outlook

As discussed later, another active hurricane season is possible this year, and news of developing hurricanes and tropical storms could add volatility to near-term oil and natural gas prices. Our monthly baseline *Short-Term Energy Outlook* does not explicitly include hurricane scenarios, in part due to data limitations and in part due to the inability of the underlying model to accurately incorporate large, short-lived unpredictable events such as hurricanes. However, we can use our assessment of how past hurricanes have affected production in the Gulf of Mexico, and in conjunction with our energy outlook, to provide some insight for the upcoming season.

While U.S. crude oil production in 2006 will grow with recovery from last year's hurricanes, only moderate increases in OPEC and other non-OPEC production and capacity are expected. Steady and continued growth in world oil demand will likely

combine with only modest increases in world oil production capacity, leaving little room to increase production in the event of geopolitical instability. We expect that crude oil prices will remain high through 2007. The monthly average WTI crude oil price is projected to average $68 per barrel in both 2006 and 2007. Retail regular gasoline prices are projected to average about $2.60 per gallon in 2006 and $2.56 per gallon in 2007 (**Figure 1. Gasoline and Crude Oil Prices**). Summer 2006 (April 1 to September 30) regular gasoline pump prices are expected to average $2.76 per gallon, 39 cents higher than last year's average of $2.37 per gallon. By September 2006, fuel prices are expected to be lower than last year because of the return of crude oil and natural gas production and refineries affected by Hurricanes Katrina and Rita in 2005.

Figure 1. Gasoline and Crude Oil Prices

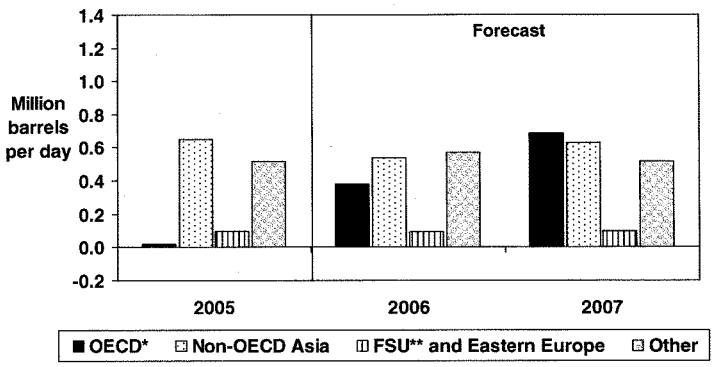


Natural gas prices are projected to be lower through the rest of this year relative to the corresponding 2005 levels. The expected average for 2006 for Henry Hub spot prices of

$7.74 per thousand cubic feet (mcf) is down $1.12 from the 2005 average. For 2007, the Henry Hub average price moves back up to average $8.81 per mcf, assuming sustained high oil prices, normal weather, and continued economic expansion in the United States.

Global Petroleum Markets. Although world petroleum consumption growth has slowed because of higher prices, projected consumption growth nevertheless remains strong at 1.7 million barrels per day in 2006 and 1.9 million barrels per day in 2007 (**Figure 2. World Oil Consumption Growth**). Most of that consumption growth will be met by increases in non-OPEC (Organization of Petroleum Exporting Countries) production. The shortfall will be compensated for by increases in OPEC production or drawdown of inventories.

Figure 2. World Oil Consumption Growth (Change from Previous Year)



* Countries belonging to Organization for Economic Cooperation and Development

** Former Soviet Union

Source: Energy Information Administration, *Short-Term Energy Outlook*, June 2006

OPEC members' crude oil production in 2006 will likely be slightly below 2005 production then increasing by about 0.7 million bpd in 2007. World surplus crude oil production capacity, which is primarily located in Saudi Arabia, is just slightly higher in 2006 and 2007 compared to 2005. Because of only limited surplus capacity throughout the forecast period, continued concern about potential or existing supply problems in Nigeria, Iran, Iraq, Venezuela, and elsewhere, as well as the threat of more hurricane damage and the continued tight supply-demand balance, we expect little change in the current high-price environment.

U.S. Petroleum Markets. Average domestic crude oil production is expected to increase by about 160 thousand barrels per day or 3.1 percent in 2006, to a level of almost 5.3 million barrels per day. For 2007, a 6.6-percent increase is expected, resulting in an average production rate of 5.6 million barrels per day for the year. Most of the production increase will likely occur in the offshore Gulf of Mexico, including production from the Mars, Thunder Horse, and Atlantis platforms.

In 2006 and 2007, U.S. petroleum consumption is projected to increase by 0.9 percent and 2.1 percent, respectively. Gasoline consumption, which exhibited almost no growth in 2005, is projected to grow 0.9 percent in 2006 and 1.3 percent in 2007. This pattern reflects continued economic growth and the stabilization of gasoline prices. Distillate (diesel fuel and heating oil) consumption, having increased 1.3 percent in 2005, is projected to increase 2.4 percent in 2006 and 3.1 percent in 2007. Transportation diesel fuel consumption is projected to show solid growth in 2006 and 2007 of 3.4 percent per year as the economy continues to expand. However, this year's unusually warm weather

during the first quarter is expected to result in a substantial decline in heating oil demand for the year as a whole, limiting total distillate consumption growth for 2006.

Refinery inputs of crude oil through the first 5 months of 2006 have averaged nearly 470,000 bbl/d (3.0 percent) below the same period last year. There are several reasons for this decline. Several refineries were still shut down or operated at reduced rates because of hurricane damage. Others pursued maintenance schedules that had been deferred from last fall, while others installed equipment to meet the new Tier 2 gasoline and ultra-low-sulfur-diesel regulations. The lower crude runs had the greatest impact on motor gasoline and distillate inventories, which fell by 23 and 20 million barrels, respectively, from the end of February through the end of April. Inventories did rebound partially in May, with total primary motor gasoline stocks ending May at less than 2 million barrels below the last 5-year average and distillate stocks 8 million barrels above the last 5-year average.

While significant supply uncertainties remain, some softening in the near-term gasoline balance is expected to dampen retail prices somewhat, barring new, unanticipated supply disruptions. The potential for midsummer retightening exists, however, if demand growth picks up to higher rates than currently expected or if refinery outages occur at unusual rates. As noted previously, retail regular gasoline prices are projected to average about $2.60 per gallon in 2006 and $2.56 per gallon in 2007. Summer 2006 (April 1 to September 30) regular gasoline pump prices are expected to average $2.76 per gallon, 39 cents higher than last year's average of $2.37 per gallon.

The transition to ultra-low-sulfur diesel (ULSD) fuel begins this month. Refiners and importers must ensure that at least 80 percent of the volume of highway diesel fuel they supply meets the new 15 parts per million (ppm) maximum sulfur limit this year, down from 500 ppm. Terminals will have until September 1, 2006, and retailers will have until October 15, 2006, to complete their transitions to ULSD. The major difficulty to overcome is delivering ULSD, rather than producing it. The Nation's complex pipeline and tank network also handles high-sulfur products, which can leave behind enough sulfur to ruin the ULSD even if the product leaving the refinery is much cleaner than the required standard at retail. Summer 2006 retail diesel fuel prices are expected to average $2.79 per gallon, 38 cents higher than last year's average of $2.41 per gallon.

Natural Gas Markets. In 2006, U.S. total natural gas consumption will likely fall below 2005 levels by about 0.2 trillion cubic feet (tcf), or 0.9 percent, then increase by 0.8 tcf, or 3.8 percent, in 2007. With weak electric heating load due to the warm January and weaker expected cooling load this summer compared to 2005, the consumption of natural gas for generation of electricity is expected to increase only slightly by 0.3 percent in 2006, then increase by 0.7 percent in 2007. Also, because of an exceptionally warm January this year, residential consumption is projected to fall by 6.0 percent from 2005 levels in 2006 and then increase by 7.7 percent in 2007. Recovery in natural-gas-intensive industrial output following the 2005 hurricanes will likely contribute to growth in industrial gas consumption this year (2.2 percent) and in 2007 (3.6 percent).

Domestic dry natural gas production in 2005 declined by 2.7 percent, largely in response to hurricane-induced infrastructure disruptions in the Gulf of Mexico. Dry natural gas

production is projected to increase by 0.7 percent in 2006 and 1.2 percent in 2007. Total net liquefied natural gas (LNG) imports are expected to increase from their 2005 level of 630 billion cubic feet (bcf) to 710 bcf in 2006 and 950 bcf in 2007.

On May 26, 2006, working natural gas in storage stood at an estimated 2,243 bcf. Stocks are 477 bcf above 1 year ago and 706 bcf above the last 5-year average. The unexpectedly warm winter weather, particularly in January, accounts for much of the current high storage level. Spot Henry Hub natural gas prices, which averaged $8.86 per mcf in 2005, are expected to fall to an average of less than $7.00 per mcf over the next few months (down from an average of $13.44 per mcf in December). Thus, barring extreme weather conditions for the rest of the year, we expect a decline in the annual average Henry Hub spot price to about $7.74 per mcf for 2006. The respite is expected to be short-lived. Concerns about potential future supply tightness and continuing pressure from high oil market prices will likely drive spot natural gas prices to just over $10.00 per mcf this coming December and January. The Henry Hub price is expected to average $8.81 per mcf in 2007.

Electricity Markets. Electricity consumption is expected to increase only slightly in 2006 (0.8 percent) in response to weak heating-related demand this past January and the lower expected cooling-related demand this summer, compared to 2005. Continued growth in the economy and a boost in heating-related demand during the first quarter next year, as weather is assumed to return to normal, will likely push up overall growth in electricity consumption by 2.1 percent in 2007.

Residential electricity prices rose an estimated 5.0 percent nationally in 2005. Some of the fastest increases in household electricity prices occurred in the Northeast (particularly the Middle Atlantic region) and in the North Central regions. Sharply higher prices for peaking fuels and very high summer demand for those fuels, particularly natural gas, fueled those increases. Some additional increases in delivered residential prices are likely in many regions in 2006 and 2007, but at a slower pace than seen in 2005.

Hurricane Impacts on Gulf of Mexico Production and Refining Operations

The Gulf of Mexico region is an important source for U.S. production of crude oil and natural gas. In 2004, crude oil production from the Federally-administered Gulf of Mexico fields was about 27 percent of U.S. total production. Gulf natural gas production was about 20 percent of the U.S. total in 2004. The Gulf Coast States of Alabama, Louisiana, Mississippi, and Texas also contribute significant onshore and State-administered offshore oil and natural gas production. The Gulf is also an important refining center, where the Gulf Coast States account for over 46 percent of U.S. total crude oil distillation capacity.

The Minerals Management Service (MMS) has the primary responsibility for monitoring fossil fuel production on the Gulf of Mexico Outer Continental Shelf (OCS). Nearly all Gulf OCS production occurs in the Western and Central MMS planning areas, roughly defined as the offshore area north of the southern-most tip of Texas and west of the Florida panhandle. Oil and natural gas platforms are especially concentrated south of the Louisiana coastline.

The Atlantic hurricane season of 2005 was the most active season since accurate record-keeping began in 1944. There were 27 named storms, including 15 hurricanes, seven of which were classified as Category 3, 4, or 5. The paths of five of those major hurricanes passed through the Gulf of Mexico, significantly disrupting oil and natural gas production.

Hurricanes Katrina and Rita passed through the heart of the Gulf producing region, resulting in widespread shut-in production, some of which continues to the present. At one point just prior to the landfall of Katrina, 79 percent of Gulf platforms were evacuated and 1.4 million barrels per day of oil production (95 percent of production, relative to the MMS base level) and 8.8 billion cubic feet per day of natural gas production (88 percent of production, relative to the MMS base level) were shut in. Hurricane Katrina destroyed 44 platforms as it passed over the OCS producing region, including some of the deepwater projects that are still under construction. As Hurricane Rita passed over the producing region, up to 93 percent of platforms were evacuated and 100 percent of daily oil production and 81 percent of natural gas production were shut in. Sixty-nine platforms were destroyed by the hurricane-force winds. As of June 1, 2006 (latest MMS data), total production of crude oil has been reduced by more than 162 million barrels and production of natural gas reduced by 784 billion cubic feet since the first hurricane struck 9 months ago. That reduction amounts to about 30 percent and 21 percent of yearly oil and natural gas production, respectively, from the Federal offshore fields in the Gulf of Mexico, according to MMS data. Additional volumes of gas production were lost in areas under Louisiana state jurisdiction. As of June 1, 2006,

about 228 thousand barrels per day of Gulf OCS oil production and 1.1 billion cubic feet per day of natural gas production still remained offline. While most of that production will ultimately be restored, some part it may be permanently lost.

In addition to the upstream impacts to Gulf production, the hurricanes had significant impacts on midstream and downstream infrastructure. Four hundred fifty-seven underwater pipelines were damaged, and the Louisiana Offshore Oil Port had to temporarily stop accepting shipments during both hurricanes. Finally, some onshore refineries and natural gas processing facilities suffered heavy damage. After Katrina hit Louisiana, nearly 2 million barrels per day of refinery capacity were shut down, due to either direct damage or interruption of power supplies. EIA estimates that at the height of the refinery outages (September 22-25, 2005), as much as 4.9 million barrels per day of refining capacity (nearly 29 percent of U.S. refining capacity and over 60 percent of refining capacity in the Gulf Coast region) were shut down. Some of the shutdowns were precautionary, ahead of the storms, but several refineries were damaged extensively, thus keeping them shut down for a relatively long time. For example, even as late as October 10, 2005, more than 2 million barrels per day of refining capacity were still shut down.

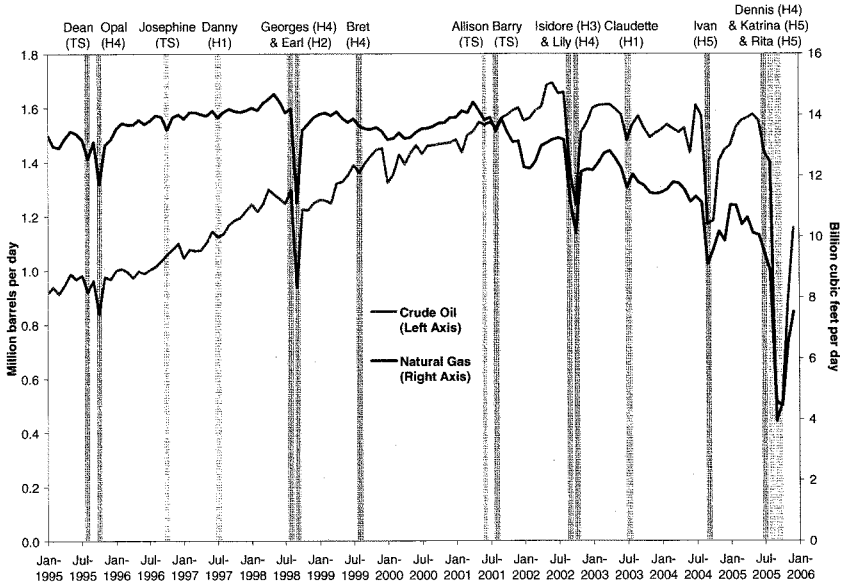
Those refinery shutdowns dramatically reduced the production of refined products. EIA estimates that from August 26, 2005, through December 31, 2005, about 150 million barrels of refined products were not produced as a result of shutdowns caused by the hurricanes, whether precautionary or due to extensive damage. Of the 150 million barrels of product not produced, about 76 million barrels were gasoline, with another 46 million barrels of distillate production shut in.

Even though significant amounts of damaged refinery capacity had been restored to service before the end of 2005, the refining market suffered continuing reverberations from past outages through this spring. For example, an unusually large amount of major refinery maintenance occurred this year as a result of, among other things, delayed maintenance during the fall following the hurricanes and final preparations for the ultra-low-sulfur diesel program that begins this month. EIA estimated that about 1 million barrels per day of capacity were offline during April, which is almost 6 percent of U.S. capacity. The affected refineries represented about 500 thousand barrels per day of gasoline production. The end of maintenance outages by the middle of May and the continuing return of the remaining hurricane-damaged refineries should help to ease the refinery capacity crunch this summer.

Historical Impacts of Hurricanes on Oil and Natural Gas Production. Notwithstanding the large impacts of the recent hurricanes, severe weather in the region has historically had a much more modest impact (see **Figure 3. Federal Gulf of Mexico (OCS) Oil and Natural Gas Production**). There have been six hurricanes during the past decade that have caused significant disruption in oil and natural gas production: Opal (1995), Georges (1998), Lili (2002), Ivan (2004), and Katrina/Rita (2005). However, with the exception of Ivan and Katrina/Rita, most disruptions have been temporary with near-normal production returning the following month. In fact, most Gulf hurricanes only shut in production for a few days. For example, in 1997, Hurricane Danny passed within 50 miles of the center of OCS production, yet production registered a barely perceptible drop in daily production rates. Hurricane Bret in 1999, with 125-mile-per-hour winds, slightly

affected crude oil production but had almost no effect on the trend in natural gas production.

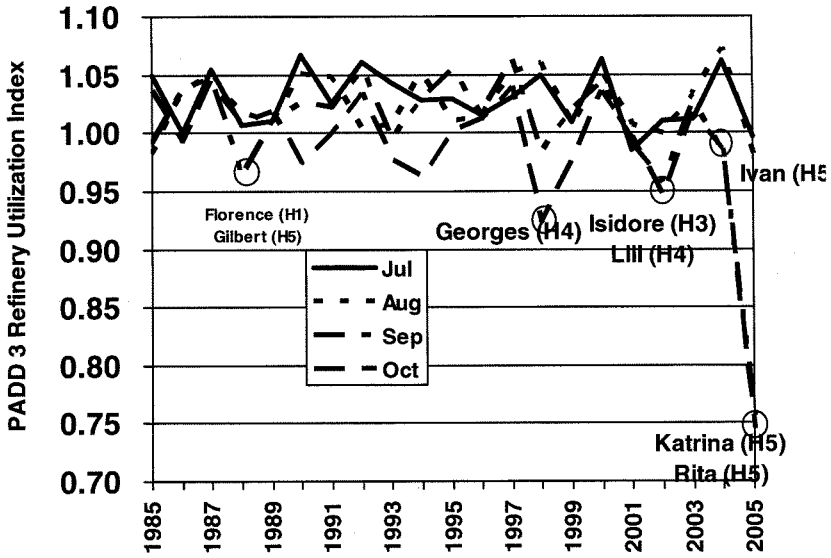
Figure 3. Federal Gulf of Mexico (OCS) Oil and Natural Gas Production



Gulf tropical storms and hurricanes typically cause small disruptions when measured on a seasonal basis. The average seasonal shut-in production (as a percentage of normal annual Gulf OCS production) from 1960-2005 was 1.4 percent for crude oil and 1.3 percent for natural gas. However, these averages are skewed upwards by the estimated 19 percent of annual oil production and 18 percent of natural gas production that were shut in following Hurricanes Katrina and Rita through the end of 2005. The median seasonal shut-in production has only been 0.6 percent and 0.5 percent of annual Gulf OCS oil and natural gas production, respectively.

Historical Impacts of Hurricanes on Refinery Capacity. There is no long-term data source that tracks the impact of hurricanes and tropical storms on the refinery sector. Refinery utilization rates are generally affected by overall capacity availability relative to demand, forced outages, and seasonal maintenance and product turnaround cycles, as well as by hurricanes. Despite the inherent difficulty of isolating the effect of storms on refineries, EIA has developed a simple index of normalized capacity utilization for refineries in the Petroleum Administration for Defense District (PADD) 3, which encompasses the Gulf Coast. **Figure 4** displays the monthly normalized index (monthly utilization rate divided by the average January-through-June utilization rate) for PADD 3 refinery capacity for the months of July through October, when disruptions related to tropical storms and hurricanes are most likely to occur. The index highlights the uniqueness of the refinery damage experienced in 2005.

Figure 4. Refinery Utilization on the Gulf Coast During Hurricane Season



Forecasting Shut-In Production. In May of each year, the National Oceanic and Atmospheric Administration (NOAA) produces an outlook for the upcoming hurricane season in the Atlantic basin, which includes the Caribbean Sea and the Gulf of Mexico. As the season progresses, NOAA fine-tunes its projections. Those projections are driven primarily by their forecasts of the seasonal Accumulated Cyclone Energy (ACE) index, which measures the collective intensity and duration of all tropical storms and hurricanes in the Atlantic. For 2006, NOAA currently expects the seasonal Atlantic ACE index to range from 118 to 179 (135 percent to 205 percent of the normal level). This range corresponds to an 80 percent chance of an above-normal hurricane season in 2006. Although that forecast predicts a very active hurricane season, it is considerably lower

than the Atlantic activity observed last year, which had an ACE index about 280 percent of the normal level. In addition to the ACE projections of overall tropical cyclone activity, for the 2006 north Atlantic hurricane season, NOAA predicts 13 to16 named tropical cyclones, with 8 to10 becoming hurricanes, of which 4 to 6 could become major hurricanes (Category 3 or higher).

Seasonal hurricane-related disruptions to oil and natural gas production are difficult to predict, primarily due to the uncertainty involved in predicting the location and intensity of future tropical cyclones. However, an analysis of historical impacts provides some insight into the range of potential effects given a seasonal hurricane forecast. EIA has developed two models using the NOAA seasonal Atlantic predictions to form expectations of the range of annual crude oil and natural gas shut-in production. The first model is based on the forecast Atlantic basin ACE index, while the second model uses the predicted number of Atlantic tropical cyclones. The equations are estimated based on seasonal tropical cyclone activity and Gulf OCS production records from 1960 through 2005.

Those two models allow us to produce an estimate of the expected Gulf ACE and an estimate of expected impact on crude oil and natural gas production from the NOAA Atlantic ACE forecast range. However, and perhaps more important, those estimates are not official forecasts, but instead only analysis intended to help us better understand the correlation between hurricane activity and shut-in production. At this time, we have examined only the impact on Federal offshore oil and natural gas production in the Gulf

of Mexico, but we recognize the need to expand analysis to include refineries, pipelines, and other processing and delivery channels.

Based on NOAA's May 2006 projections for the 2006 hurricane season and the historical relationship between tropical storm activity and production disruptions between 1960 and 2005, total reductions in crude oil and natural gas production from the Federal outer continental shelf (OCS) due to tropical storm activity in 2006 are expected to range from 0 to 35 million barrels and 0 to 206 billion cubic feet respectively. NOAA emphasizes that its May hurricane outlook is based on climatological conditions that are still evolving. An updated hurricane outlook will be issued in August, when conditions favorable for hurricanes are more predictable. There is a possibility that NOAA could substantially revise its projections for seasonal hurricane activity, as in 2005, when the May outlook, projecting hurricane activity for 2005 somewhat lower than what is currently projected for 2006, was revised upward substantially in August, prior to Hurricane Katrina. Actual storm activity in 2005 then ended up close to the upper bound of the revised range. If a similar situation occurs in 2006, EIA estimates of shut-in crude oil and natural gas production due to tropical storm activity would be significantly higher.

Department of Energy Response

The Department of Energy (DOE) Office of Electricity Delivery and Energy Reliability (OE) and Office of Fossil Energy were instrumental in providing support during the 2005 hurricane season, and OE currently hosts a web site that tracks its past actions and demonstrates its preparedness for the upcoming season. Last year, DOE deployed over

40 emergency response experts who assisted with fuel distribution; allocated emergency response resources; and provided daily assessments (including those of EIA's) of oil, petroleum product, and natural gas supplies and the impacts on the electricity sector. A full description of the Department's response activities and preparations for the upcoming season is beyond the scope of this testimony, but I can assure you that both EIA and the Departmental offices with direct responsibility for the energy assurance mission are fully prepared to mount an effective response and information gathering program should hurricanes once again threaten critical energy sector infrastructure along the Gulf Coast.

Mr. Chairman and members of the Committee, this completes my testimony. I would be happy to answer any questions that you might have.

Mr. ISSA. Thank you, and I will start off with 5 minutes of questioning.

Mr. Caruso, you know, I think facts and figures are great, and I have a staff that goes through them and runs the numbers and pours over them, but in layman's terms, if we are to assume the upper end of those shortages that you just described occur, and since last year we came within, I believe it was hours, sometimes adding up to a day, sometimes not, of running out of, for example, jet fuel here in Washington, DC.

If we hit the upper end due to an outage, not similar to last year but based on your forecast, do the pipelines go dry for a period of time, and if so, what can we or are we likely to be able to do as far as preventing aircraft trapped on the ground in airports and unmanageable lines for other fuels?

Mr. CARUSO. Well, if the intensity is limited to those numbers that I have just discussed—and we also know that there is certainly a potential for revisions upward—it would put upward pressure on price, but this level is so much less than last year, I do not think there would be a issue of anywhere near the reduction in supply or the potential disruptions that you indicated.

So, I would say it would probably be limited to price impacts, and depending on how long the refineries or pipelines were off-line, I do not see it approaching anywhere near the intensity or disruption level of last year.

Mr. ISSA. I hope you are right. I guess I would followup with one quick question, which is that, since inventories are generally—and capacity is not as good as it was going into last year's hurricane season, and since jet fuel does not enjoy the elasticity of demand, if prices go up, it does not change the amount of fuel necessary to make the amount of flights that we have people demanding, and even raising the cost of a ticket doesn't reduce that many people who physically use aircraft to travel, we can presume that aviation fuel, particularly, is not going to go down over even days or weeks of short supply. So, price is not going to change that.

If price does not change that, are we reasonably at risk that, as close as we came last year, we could find ourselves unable to supply, if there is a refinery outage even close to last year, the aviation fuel in the northeast?

Mr. CARUSO. I think the other element that you have to take into account is inventories, and as of now, the starting of the season, inventories of jet fuel and other—what we call middle distillates—are in reasonable good shape. So, we do think that, again, based on the assumption that we do not get above the numbers that I have talked about, we should have adequate supply, but as I mentioned, there would be an impact on prices.

Mr. ISSA. General Johnson, as a southern Californian, I often ask too many questions about the southwest part of the United States, so please note that my biggest concern right now is: if a hurricane were to hit the Washington to Maine coast, particularly along New York and New Jersey, where we import fairly substantial amounts of gasoline and distillates, what would be the effect?

General JOHNSON. Well, sir, any coastal community or port is certainly at risk, and New York, for example, has had significant hurricanes in 1985 with Gloria and with Bob in 1991.

I think probably the most memorable one was 1938, where a category three came in with 10 to 12 foot surge going in.

That is a pretty significant surge. Katrina had doubled that in the Gulf coast, and the Mississippi coast had about double that, but that is a significant surge and could disrupt port operations; I defer to the port experts on that.

Our job is to provide on accurate, timely forecast, and so, we will be watching the east coast and the Gulf coast very carefully this year.

Mr. ISSA. Would you say, based on your predictions that we have a higher-than-normal opportunity to have that kind of hit to New York and New Jersey this year versus previous years?

General JOHNSON. I have heard speculation on geographic proximity, and I believe that is exactly what that is.

That is speculation at this point in time. There are so many factors that go into where the hurricane will actually track.

I think there is, however, sir, a direct correlation with higher-than-average and an above-normal season and with a higher probability for land-falling hurricanes. However it is, in fact, scientifically less believable that we can associate with a geographic proximity at this point in time.

Mr. ISSA. Well, I do note that, yesterday, on June 6, 2006, with the prime rate at 6.6, they said there was only a 1 in 100,000 chance that it would be the end of the world.

General JOHNSON. I will defer to you, sir.

Mr. ISSA. Those were odds I could live with, but obviously, the odds are dramatically more likely than 1 in 100,000.

For all practical purposes, isn't this, particularly at this high level of activity—we are sort of in that it is going to happen once in a 100 years and it is going to happen more likely at this point in the 100 years than some other points, from a weather standpoint?

General JOHNSON. Sir, we do see that cyclical, multi-decadal signal, and since 1995, we have only had 2 years in the last 11 that have been below normal, and those were both El Nino years.

So, at this point in time, I believe that we are in this above-normal decadal signal and we will remain there for the next decade or so.

So, yes, sir, I think that this is something that all America needs to pay attention to, especially those on the coast, but as you point out, those effects can go inland through energy and other industries, as well.

Mr. ISSA. Thank you.

Mr. Caruso, did you have a partial answer to that first question?

Mr. CARUSO. Yeah. One point to keep in mind about New York and the east coast——

Mr. ISSA. New York, New Jersey, Connecticut. Let's not forget Connecticut.

Mr. CARUSO. I could never forget my home State. The refining concentration in the Gulf coast, 46 percent of the country's refining capacity, makes it obviously far more critical to the supply. For example, there are 1.5 million barrels a day of refining capacity in the east coast, and 7 million in the Gulf coast, but as the General just pointed out, the ports are critically important, because they

import substantially more product into the east coast, as a share of their final consumption, than any other region.

So, that is the area where I would be most concerned about in terms of weather-related disruptions: port activity disruption, as opposed to refineries themselves or even pipelines.

Mr. ISSA. Admiral, that probably brings us very logically to you.

All of you spoke a little bit about where we are this year versus last year, but that is the short run. That is how much we could patch together with string and a little glue.

What is left to be done for this year that you are in the last minutes of trying to figure out how to do it? Obviously, down in New Orleans, we are very acutely aware that they are welding and pushing to try to get things done, and they are past what was their deadline. Admiral, what is it we have to do, perhaps with additional emphasis from the Congress, for the long run, for this entire 10-year period in which we are probably at triple or quadruple the chances of a 100-year flood occurring or a 100-year hurricane cycle?

Admiral BARRETT. Sir, in terms of this year, and particularly in light of your earlier question, I would point out, there is a little more resiliency and flexibility once you get above Baltimore in terms of—you have multiple modes, as Guy mentioned, you have stuff coming in, in terms of restoring capacity or capability. You do have pipelines coming up. You do have pipelines coming up to the midwest and coming across, and you have barge and shipping transportation.

So, there is a little more flexibility up there once you move up into the Baltimore-Washington-New Jersey corridor. I think fundamentally, if I take your question, I think Secretary Mineta has an initiative to reduce, over the long term, congestion on our Nation's highways.

It is an impediment to economic growth and a national-level issue that needs attention.

Well, in a similar sense, I think we need to be creative about ways, with the industry and with the Congress and the administration, to reduce congestion on the energy highways, if you will, the means by which we move energy around this country and provide the reliability of those supplies to American citizens.

So, I think, long-term, we need to take a look at that issue: the congestion of the energy highway, as well as the Secretary has clearly stated the need to pay attention to our national highway system. That is what I think needs attention.

Mr. ISSA. Obviously, we, as Californians, are acutely aware of what happens when a highway becomes a parking lot, and that is just every day, and that is without earthquakes or hurricanes. But Admiral, following up, the pipelines that we depend on in the northeast, the Colonial and Plantation, we depend on them operating at virtually peak level.

First of all, what happens if we have widespread flooding, we lose electricity, they shut down? What are we doing to prevent that, to really attack the fact that we are an electric economy, that we depend on electricity to get petroleum, rather than we think that petroleum creates electricity?

Admiral BARRETT. I think the industry, following, again, the lessons learned—and we certainly have been looking at this from last

year—have been much more aggressive in positioning in place emergency generators, food and water supplies. In addition, they are paying more attention to how they can get their employees into these sites, gaining appropriate access, and I do think it is going to depend on what we encounter. Despite the increasingly accurate predictions, it is a little hard to know exactly what will be hit, but I know they have been moving aggressively, and we have been monitoring their efforts to put more capability in place, to be more immediately responsible to any outage that is caused by loss of electrical grid.

Mr. ISSA. I am just going to ask one closing question, and you have been a great panel, but last year, we discovered two things.

First of all, we did not know where a lot of the assets that we needed were. We might not have known we needed them until the incident occurred, but once we did, we did not know where they were.

It took a while to find out where generators were. You included the fact that some came from as far away as Washington State to the Gulf.

Then, second, once we had located them, contracted them, crews were driving them in, we discovered that they had been stopped by the very people who were intending to provide relief.

One, what have we done about the first part, to your knowledge, and this includes both liquid assets in the way of replacement fuels and solid assets—for example, generators—and two, to the extent that each of you has overseen this, what are we doing to guarantee that if the asset is located and heads in, that it will arrive uninterrupted?

Admiral BARRETT. Thank you, sir.

In response to your first question, there has been a lot more planning this year at multiple levels within the Federal Government, partnering with industry and at the State and local levels, to make sure that the assets, to the extent they can be anticipated, are identified, that mechanisms are in place to prioritize and assign them to where they are needed. I know for a fact that the industry has been very aggressive, at least the pipeline industry, in making sure they have in their pocket, if you will, a little more depth to deal with emergent conditions, and I think, two, the Federal Government, led by the Department of Homeland Security, and from our perspective at Department of Energy, and FERC, specifically, have been paying much more attention to how, in an emergency, at both the national level and down at the local level at emergency operations centers and command centers, appropriate prioritization, with law enforcement support, would be in place.

Last year, I know my deputy, Brigham McGown, was very heavily engaged in arranging escorts from law enforcement to move this equipment onto the sites where it was needed. Our hazardous material folks worked with other agencies, Federal motor carriers, to get the special permits we needed.

I believe, from what I know that those mechanisms will be much more regular this year, and we are still working on that. We are exercising regularly, and we will continue to do that, and pay attention to where we identify any risks.

Mr. ISSA. Thank you.

I am going to break my own promise where I said this was the last question.

There was one other piece of testimony that came out, and it was maybe an offhand remark, but I do not know that most of us on this side of the dais are used to the term "and some assets in the Gulf are permanently off-line."

Mr. Caruso, that was in your opening testimony.

Can you provide the committee—because I do not think we are aware of what and why assets—and I am basically talking about wells—are abandoned as a result of last year and what the impact of that is, to the extent that it can be quantified.

Mr. CARUSO. I would be happy to do that. Minerals Management Services has made that estimate.

Mr. ISSA. I appreciate it.

All congressional committees pride themselves on knowing everything. I would appreciate it if you would help me in getting that.

Mr. CARUSO. I would be happy to do that, Mr. Chairman.

Mr. ISSA. In closing, I would like to thank all of you for excellent testimony, excellent question and answers. We were very fortunate to have you with us here today.

This is no surprise that, if all goes well, we will not have you back, but if any concern develops I have no doubt that we will all be together again.

Thank you again, and we will hold the record open for 5 days.

We will now hear from our second panel.

With us today, we have Mr. Robert Greco, group director of upstream and industry operations for the American Petroleum Institute, and Mr. Tyson Slocum, energy program research director of Public Citizen.

Before we proceed with the second panel, I apologize, but I do not believe you have been sworn in yet.

Mr. SLOCUM. No.

Mr. ISSA. Would you please rise to take the oath? Is there anyone with you that is going to advise? It is harmless. It does not hurt a bit.

Thank you.

[Witnesses sworn.]

Mr. ISSA. Let the record indicate all were in the affirmative and smiling, and before we begin, I would like to recognize my ranking member, Ms. Watson, for an opening statement.

Ms. WATSON. Mr. Chairman, I would like to apologize for being so late to this meeting. It was unavoidable, but thank you for proceeding on, and I also want to thank you for convening this most important hearing.

This subcommittee can play a vital role in examining the issues regarding the availability of fuel supplies during this upcoming hurricane season. Protecting the gas and oil infrastructure in the Gulf of Mexico is essential to ensure that gas prices do not exceed the record highs they are at this time.

The Gulf produces 20 percent of domestic natural gas production and 28.7 percent of domestic off-shore crude oil production.

In the upcoming weeks, we must work diligently so we will not be faced with the same fuel supply problems that we encountered

during the 2005 hurricane season. A repeat of last year's unpreparedness would be devastating to our Nation's economy.

Mr. Chairman, gas prices rose above $3 a gallon in September 2005, creating record highs.

Constituents in my home State, and yours, of California experienced situations where gas stations did not have any oil to sell.

In northern California, along with a few other States in the union, constituents faced jacked-up prices in excess of $6 per gallon of unleaded gasoline.

We do not want America to experience this kind of financial strain again.

The Gulf of Mexico also provides an estimated 47.4 percent of the total U.S. domestic refining capability. A shutdown or even partial shutdown of this region would have a disastrous effect on our Nation's oil and gas processing.

The National Oceanic and Atmospheric Administration has predicted a very volatile hurricane season in this year, 2006.

In 2005, there were an unprecedented 28 storms and 15 hurricanes.

This season, scientists are predicting at least 13 to 16 named storms, with 8 to 10 becoming hurricanes.

Powerful storms can and do cause tremendous damage; we witnessed that.

A destructive storm has a ripple effect on every citizen's pocketbook, as well as on every citizen's life.

Oil companies are in a very powerful position. The global thirst for oil has placed American consumers in a very difficult situation.

An investigation by the Government Accountability Office finds that recent mergers in the U.S. oil industry have dramatically increased concentration in the refining sector. In the last 30 years, there have not been any new refineries built in the United States.

The increase in market concentration has allowed oil companies to withhold supply, thereby increasing prices. This makes it easier for companies to drive up gas prices while holding consumers hostage.

Mr. Chairman, we must look at ways to decrease demand, increase fossil fuel efficiency, and explore alternative fuel sources.

Couple those thoughts with the expanding refining capacity of existing industry, and we will start to move down the right path.

So, thank you again for holding this hearing, and with the Gulf region comprising almost half of this Nation's domestic oil refining, one-third of America's domestic oil production, and one-fifth of the natural gas production, the safety and the security of the Gulf of Mexico should be at the forefront of our agenda.

I look forward to questions and dialog with our witnesses today, and I hope we will not have to go through the travesty suffered last August and September in New Orleans and the rest of the Gulf, or at the pump, ever again.

I yield back my time.

[The prepared statement of Hon. Diane E. Watson follows:]

Opening Statement
Congresswoman Diane E. Watson
Government Reform Committee
Subcommittee on Energy and Natural Resources
Hearing: "Keeping the Fuel Flowing from the Gulf: Are we Prepared for the Hurricane Season?"

Mr. Chairman, thank you for convening today's important hearing. This Subcommittee can play a vital role in examining the issues regarding the availability of fuel supplies during this upcoming hurricane season. Protecting the gas and oil infrastructure in the Gulf of Mexico is essential to ensure that gas prices do not exceed the record highs they are at now. The Gulf produces 20% of domestic natural gas production and 28.7% of domestic offshore crude oil production. In the upcoming weeks we must work diligently so we will not be faced with the same fuel supply problems that we encountered during the 2005 hurricane season. A repeat of last year's unpreparedness would be devastating to our nation's economy.

Mr. Chairman, gas prices rose above $3.00/gallon in September 2005 creating record highs. Constituents

in my home state of California experienced situations where gas stations did not have any gas to sell. In northern California, along with a few other states in the union, constituents faced jacked up prices in excess of $6 per gallon of unleaded gasoline. We do not want America to experience this financial strain again.

The Gulf of Mexico also provides an estimated 47.4% of the total United States domestic refining capability. A shutdown, or even partial shutdown, of this region would have a disastrous effect on our nation's oil and gas processing. The National Oceanic and Atmospheric Administration has predicted a very volatile hurricane season in 2006. In 2005, there were an unprecedented 28 storms, and 15 hurricanes. This season, scientists are predicting at least 13 to 16 named storms, with 8 to 10 becoming hurricanes.

Powerful storms can, and do, cause tremendous damage. A destructive storm has a ripple effect on every citizen's pocketbook. Oil companies are in a very

powerful position right now. The global thirst for oil has placed American consumers in a very difficult situation. An investigation by the Government Accounting Office (GAO) finds that recent mergers in the U.S. oil industry have dramatically increased concentration in the refining sector. In the last 30 years, there have not been any new refineries built in the United States. The increase in market concentration has allowed oil companies to withhold supply thereby increasing prices. This makes it easier for companies drive up gas prices while holding consumers hostage.

Mr. Chairman, we must look at ways to decrease demand, increase fossil fuel efficiency, and explore alternative fuel source. Couple those thoughts with expanding refining capacity of existing industry and we will start to move down the right path.

I want to thank you again for holding this hearing on an issue that is staring us in the face. With the Gulf

region comprising almost half of this nation's domestic oil refining, 1/3 of American domestic oil production, and 1/5 of the natural gas production, the safety and security of the Gulf of Mexico should be at the forefront of our agenda. I look forward to questions and dialogues with our witnesses today. I hope we will not have to go through the travesty suffered last August and September in New Orleans, or at the pump, ever again.

I yield back.

Mr. ISSA. I thank the gentlelady, and I particularly thank you for noting that our efforts to go toward bio-diesel and ethanol, including in California, where there are a number of new facilities under construction, will take us away from a dependence on nearly half of all our refined fuels coming out of the Gulf, but for today, I am pleased to have a panel that can help talk about how we get through this season.

I would ask that you bear in mind we have already received unanimous consent that your written statements be put in the record, and additionally, you will be allowed to augment with extraneous or pertinent information, as you see fit, and answers to any questions you are unable to answer today.

So, I would encourage you very much to stay within the 5-minutes for your opening statements, and to use as much of the ideas not already preprinted as you possibly can.

Mr. Greco.

STATEMENTS OF ROBERT GRECO, GROUP DIRECTOR OF UPSTREAM AND INDUSTRY OPERATIONS, AMERICAN PETROLEUM INSTITUTE; AND TYSON SLOCUM, ENERGY PROGRAM RESEARCH DIRECTOR, PUBLIC CITIZEN

STATEMENT OF ROBERT GRECO

Mr. GRECO. Thank you, Mr. Chairman.

Good afternoon.

I am Bob Greco, group director of industry operations and upstream for API, the national trade association of the U.S. oil and natural gas industry. We appreciate this opportunity to discuss the oil and natural gas industry's hurricane preparedness.

During and following last year's hurricanes, API and the industry worked closely with Federal agencies, including the Departments of Energy, Transportation, Homeland Security, Minerals Management Service, the EPA, the Coast Guard and others.

We want to thank these agencies for their cooperation and support as we work together to learn from last year's experiences and prepare for this year's hurricane season. The suggestions which follow are meant to improve on an already positive and very successful working relationship between the government and the oil and natural gas industry during this past hurricane season.

Our industry is proud of its hurricane record.

The off-shore infrastructure in the Gulf, which includes 4,000 platforms and 33,000 miles of pipeline, survived the hurricanes well, with no loss of life and no significant off-shore exploration and production releases.

Our industry's on-shore operations were safely shut down as the storms approached, and then safely restarted.

Finally, the industry worked with Federal and State authorities and electric utilities to get pipelines moving product as quickly as possible.

Improved operational coordination is now underway with government agencies at all levels.

In March, API held a 2-day hurricane conference to discuss lessons learned and identify areas for improvement. Government participation included DOE, DOT, MMS, DHS, EPA, the Coast Guard,

and State and local agencies. Many industry participants also attended a DOE-sponsored meeting in Mississippi.

Last week, API joined with DOE and MMS at a joint press conference to discuss hurricane preparedness, and just this past Monday, API hosted a hurricane round-table of all sectors of the industry and relevant Federal agencies and trade associations.

As we enter the hurricane season, it is critically important that agencies communicate and coordinate hurricane response efforts. We need to work together to eliminate overlap or duplication of effort by multiple government agencies, which can result in duplicative requests for information from companies, misdirection of requests within companies, and other inefficiencies.

It is even more critical that government, to the extent possible, helps to ensure that a high priority is given to facilitating a company's transportation and use of emergency back-up generation and restoration of commercial power to pipelines and refineries.

Companies also need to work closely with emergency responders and local law enforcement to ensure that back-up electrical generators and other essential equipment are not commandeered for other purposes, which was another concern last year.

In addition, government authorities need to ensure that company personnel have access to refineries, pipeline facilities, and other infrastructure to assess damages and provide repair quickly. Denial of such access was a problem in some cases during last year's hurricanes and delayed restart of operations.

Our industry's experience responding to Katrina and Rita underscored a fact that was already well known. Our employees are our most important asset. In preparing for the upcoming hurricane season, API member companies have taken a number of activities to ensure that their employees are, first and foremost, safe during and after a hurricane, that they have the needed supplies and resources for survival, and ultimately can return to their jobs when conditions permit.

Examples include coordination of personnel evacuation plans to ensure that companies know where employees are and can communicate with them; establishment of distribution centers to provide food, potable water, and other essential products to employees in need; and identification of alternative housing arrangements for employees who have lost their homes.

API and the industry will continue to work closely with government agencies, and continually reviews our industry standards and operating practices.

The development of consensus industry standards is one of API's oldest and most successful programs, dating back to our first standards in 1924.

Today, API maintains some 500 standards that promote safety, efficiency, and environmental protection for all segments of the oil and natural gas industry, and over 100 of these standards are referenced in Federal regulations.

In recent weeks, API published the first two interim recommended practices, or RPs, to improve the performance of drilling rigs, several of which drifted off location during that hurricane.

These interim RPs can be downloaded free of charge at API's Web site, www.api.org, and MMS has already quickly incorporated these guidelines into their regulations.

While the drifting of these rigs did not cause spills, both industry and government were concerned and saw a need to improve rig performance.

In conclusion, these interim RPs and our sponsorship of and participation in hurricane preparedness meetings and conferences are just a few examples of how the industry is moving ahead rapidly to be better prepared as the next hurricane season begins.

Working together, industry and government can meet the challenges we face.

Thank you again for this opportunity, and I look forward to answering your questions.

[The prepared statement of Mr. Greco follows:]

Statement of Bob Greco, API Group Director for Upstream and Industry Operations, before the House Government Reform Subcommittee on Energy and Resources

June 7, 2006

I am Bob Greco, Group Director for Upstream and Industry Operations for API, the national trade association of the U.S. oil and natural gas industry. API represents more than 400 companies involved in all aspects of the oil and natural gas industry, including exploration and production, refining, marketing and transportation, as well as service companies that support our industry. We appreciate this opportunity to discuss the oil and natural gas industry's hurricane preparedness.

I. INTRODUCTION: RESPONDING TO HURRICANES KASTRINA AND RITA

During and following last year's hurricanes, API and the U.S. oil and natural gas industry worked closely with federal agencies, including the Department of Energy, the Department of Transportation, the Department of Homeland Security, the Minerals Management Service, the Environmental Protection Agency, the Coast Guard and others. We want to thank these agencies for their cooperation and support, as we work together to learn further from last year's experiences and continue to prepare for this year's hurricane season.

The Gulf of Mexico provides 30 percent of the oil and 21 percent of the natural gas used by the United States. According to Minerals and Management Service (MMS) Regional Director Chris Oynes, "The overall damage caused by Hurricanes Rita and Katrina has

shown them to be the greatest natural disasters to oil and gas development in the history of the Gulf of Mexico."

Based on DOE data, at the peak, about 29 percent of U.S. refining capacity was shut down as a result of Katrina and Rita. As of May 31, only 3.3 percent of U.S. refining capacity was not yet fully operational. According to the Minerals Management Service (MMS), about 30 percent of U.S. oil production and about 21 percent of U.S. natural gas production was shut down by the hurricanes. As of May 31, less than 7 percent of U.S. oil production and less than 3 percent of U.S. natural gas production remained shut-in. MMS estimates 3,050 of the 4,000 platforms and 22,000 of the 33,000 miles of pipelines in the Gulf were in the direct paths of the storms. Together they destroyed 115 platforms and damaged 52 others.

Nevertheless, during three major hurricanes in the Gulf of Mexico – Ivan, Katrina and Rita – including two back-to-back Category 5 hurricanes, featuring 200 miles-per-hour winds and seas of up to 100 feet and all within 13 months – no lives were lost and no significant offshore exploration and production releases occurred.

The hurricanes, however, created isolated oil spills in certain locations of the impacted onshore areas. Those facilities that suffered sufficient hurricane damage to cause a spill made every effort to cooperate with federal and state agencies to ensure that a rapid and thorough response was carried out. In addition, these spill incidents are being analyzed

closely to identify and make any changes that could prevent them from happening again should another major hurricane event occur.

The Gulf Coast region includes some 4,000 offshore platforms in federal waters, major refineries, and hundreds of production, transportation and marketing facilities. There is a reason for this geographic concentration in a high-risk weather area. Government policies have largely limited offshore exploration and production to the Central and Western Gulf – and our onshore facilities, including refineries, have been welcomed to communities in the region. Unfortunately, offshore oil and natural gas development has been barred elsewhere – including the eastern half of the Gulf and the entire Atlantic and Pacific Coasts. Onshore construction has been held back by government restrictions, permitting delays, and not-in-my-backyard or NIMBY sentiments.

It is ironic that we talk so much about diversifying the sources of our energy supplies from abroad, yet we have done so little to geographically diversify our oil and natural gas industry here at home. Despite the restrictions now in place, the industry has diversified sources of supply through recent pipeline projects that bring Canadian crude oil to the Gulf coast and Oklahoma. But much more diversity is needed.

We can no longer afford to place off limits vast areas of the Eastern Gulf of Mexico, off the Atlantic and Pacific coasts, and offshore Alaska. Similarly, we cannot afford to deny Americans consumers the benefits that will come from opening the Arctic National

Wildlife Refuge and from improving and expediting approval processes for developing the substantial resources on federal lands in the Mountain West.

In fact, we have an abundance of competitive domestic oil and gas resources in the U.S. According to the latest published estimates, there are 112 billion barrels of oil and 656 trillion cubic feet (Tcf) of natural gas remaining to be discovered in the United States. Consider that 112 billion barrels are enough oil to power more than 60 million cars for 60 years and heat more than 25 million homes for 60 years. And 656 Tcf is enough natural gas to heat 60 million homes for 160 years.

Much of these oil and gas resources – 78 percent of the remaining to be discovered oil and 62 percent of the gas – are expected to be found beneath federal lands and coastal waters. Federal restrictions on leasing put significant volumes of these resources off limits, while post-lease restrictions on operations effectively preclude development of both federal and non-federal resources. Addressing these restrictions is critical.

II. IMPROVING HURRICANE RESPONSE COORDINATION

At noted earlier, at its peak, 29 percent of domestic refining capacity was shut down due to Katrina and Rita. Our industry's onshore operations were safely shut down as the storms approached and then safely restarted. As quickly as humanly possible, the industry worked with government agencies to obtain the appropriate waivers of fuel standards to provide the necessary flexibility to get gasoline and diesel fuel where they were needed.

The industry also obtained Jones Act shipping waivers to enable more ships to distribute crude oil and products, as well as waivers to provide flexible hours of service requirements for drivers to help the industry get products to the marketplace with minimal supply disruptions. Finally, the industry worked with federal and state authorities and electric companies to get pipelines moving product as quickly as possible.

Subsequently, API held a two-day hurricane conference in March to discuss lessons learned and identify areas for improvement. Government participation included DOE, MMS, DHS, EPA, the Coast Guard, and state and local agencies. Our members shared their examples of ingenuity during the crisis. For example, one refinery shipped crude oil by vessel when pipelines did not have power, other refineries operated as terminals to minimize supply disruptions, and one pipeline was able to weld new piping in place to route around an out-of-service pump station.

.

Many industry participants also attended a DOE-sponsored meeting in Tunica, Mississippi, and, earlier this week, API hosted a hurricane roundtable of all sectors of the oil and natural gas industry and relevant federal agencies and trade associations to further share lessons learned and to explore additional improvement opportunities for government and industry coordination.

Improved operational coordination is now underway with government agencies at all levels. Last week, API joined with DOE and MMS at a joint press conference to discuss hurricane preparedness. As we enter the hurricane season, it is critically important that

agencies communicate and coordinate to avoid duplication of hurricane-related requests to companies from multiple agencies.

It is even more critical that government, to the extent, possible, help to ensure that a high priority is given to facilitating the acquisition, transportation, and placement of emergency backup generation and restoration of commercial power to pipelines and refineries. FERC was granted new authority under the Energy Policy Act of 2005 to improve electric power reliability. FERC should be urged to exercise that authority fully and expeditiously as that could only improve the situation.

-- Inter-Agency Coordination

A key industry observation made following Hurricanes Katrina and Rita was that communication and coordination between the agencies were critical components to an efficient and effective response. The National Response Plan established an Interagency Incident Management Group (IIMG) to assist in the coordination between multiple federal and state agencies during an Incident of National Significance (IONS)—such as the two hurricanes of 2005. And while API members and the industry as a whole were not directly involved with the IIMG during last year's events, the effectiveness of this group clearly had an impact on our industry by facilitating federal and agency cooperation in responding to the hurricanes.

In the May 25, 2006 Notice of Change to the National Response Plan, the IIMG was renamed the Incident Advisory Council (IAC). This council, while similar to the IIMG,

has a slightly redefined role, and while this new group has yet to be tested, our industry hopes that coordination of multiple agency activities during an emergency response remains one of its main functions. It is essential that government – at all levels – has clearly established roles during emergency situations. To this end, we stand ready to provide input and assistance to the federal government to ensure that the IAC is as robust and as effective as possible.

For instance, a number of our companies have placed supplies (for example, generators, blankets, food, potable water, and medicine) in strategic locations throughout the country so that resources can be delivered to our impacted facilities and employees in a timely manner. As a key component of our nation's critical infrastructure, we recognize that it is imperative that operations begin running as soon as possible following a hurricane or other emergency to ensure that fuel and energy can be delivered and distributed where it is needed with minimal supply disruptions. As was evidenced during last year's hurricanes, delivery of goods and products to these facilities often proved to be quite difficult as supply convoys got stopped or delayed at checkpoints and, in some cases, were even confiscated. If the IAC is effective and there is sufficient coordination among the agencies, we can be certain that these supplies can reach their intended destinations in a timely manner so that the facilities can be brought back into operation in an expeditious manner.

-- Company Liaison with Local Officials

Oil and natural gas companies use as their primary response mechanism the National Incident Management Systems/Incident Command System (NIMS/ICS). NIMS is a companion document to the National Response Plan (NRP), and both of these are built on the premise that incidents are typically handled at the lowest jurisdictional level. Companies continue to use NIMS and the more recent NRP as guidance documents when establishing and periodically reviewing their emergency response plans. One of the more important lessons learned following the 2005 hurricanes was that it is imperative for companies to maintain a working relationship with local and regional government officials. As a result, to prepare for this upcoming hurricane season, companies rigorously reviewed their response plans and conducted drills and exercises specifically to ensure that the liaison capability existed between the companies and local officials.

III. INDUSTRY PREPARATIONS FOR THE 2006 HURRICANE SEASON

The oil and natural gas industry continues to make significant modifications and upgrades to its Gulf of Mexico onshore and offshore operations in the aftermath of the 2005 hurricane season. Refiners did an effective job recovering and minimizing supply disruptions. Refineries had emergency response plans prepared and were able to react quickly without a single safety incident. Companies are now independently considering how they can further improve preparedness.

API has been moving on a number of fronts to identify and learn from the lessons of Hurricanes Katrina and Rita. As noted earlier, API held a well-attended, two-day hurricane conference in March to discuss lessons learned and to identify areas for

improvement, prior to the 2006 hurricane season. DOE hosted a similar conference. API, DOE and MMS held a joint press conference on May 30 to explain preparations for the 2006 hurricane season, and discussions were continued at a June 5 government-industry meeting.

Discussions to improve operational coordination are underway with government agencies at all levels. At the same time, discussions between utilities and individual companies are in progress toward ensuring priority service restoration critical to restarting operations such as refining and pipeline flows.

The industry now has more experience sharing emergency equipment. Companies are making pre-arrangements with third parties and suppliers to ensure their facilities will have access to the right resources during an emergency. Internet bulletin boards and other sites are being established to share both real-time issues and lessons learned. Moreover, emergency response and continuity-of-operation plans are being updated and employees are receiving additional training and conducting exercises and drills.

In addition, independent companies are evaluating facility hardening measures that may be appropriate for a particular facility, such as elevating certain operating units to minimize potential flood damage or strengthening utility poles.

-- Employees: the Industry's Most Important Asset

The 2005 hurricanes reemphasized to the industry a fact that was already well known: our employees are our most important asset. In preparation for the upcoming hurricane season, API member companies have undertaken a number of activities to ensure that their employees are, first and foremost, safe during and after a hurricane, have the needed supplies and resources for survival, and, ultimately, can return to their jobs when conditions permit. Some examples of these activities include:

- The coordination of personnel evacuation plans to ensure that when employees do evacuate, the company knows where they go and can communicate with them.
- The establishment of distribution centers in areas where there is a high concentration of employees. These distribution centers contain supplies (for example, food, potable water, baby food, diapers, and medicine) that can be made available to employees in times of need.
- The identification of alternative housing arrangements (for example, purchases of recreational vehicles and establishment of long term agreements with apartment complexes and other commercial facilities) for employees who have lost their homes.
- Development of mechanisms to ensure that employees can still receive their paychecks and, when necessary, have no- or low-interest loans made available.

-- Hurricane Preparedness: Offshore

For the industry's exploration and production operations, repairs to existing infrastructure are progressing with excellent cooperation from the Minerals Management Service (MMS) and the Coast Guard. According to MMS, 22 percent of oil production and 13 percent of natural gas production in the Gulf of Mexico remains shut in. Nevertheless,

drilling activity remains at a high level and has helped offset this reduction. As of May 5, 1,624 drilling rigs were at work in the U.S., the highest level in 20 years..

A committee of operating companies, drilling contractors and trade associations has been formed to address offshore hurricane issues. The industry is moving ahead on a number of hurricane response fronts, including coordinating right-of-way priority for tankers and other vessels with the Coast Guard and undertaking fast-track review of API offshore structure design standards.

-- Performance of Offshore Rigs

While no significant offshore spills resulted from the hurricanes, the storms caused several drilling rigs to drift off location. Both industry and government were concerned and saw a need to improve the performance of these rigs.

API and other industry representatives met with Department of the Interior and Coast Guard officials in November to discuss the rig mooring experience and begin a cooperative effort to identify and implement improvements. Participants included offshore producers, drilling operators and other upstream trade associations.

At the meeting, MMS and the Coast Guard requested the industry improve the station-keeping performance of drilling rigs during hurricanes --- to reduce the risk of rigs breaking their moorings and drifting. Since the November meeting, a joint industry

Committee on Hurricane Response has been leading an effort with API to develop several new recommended practices (RPs) for this year's hurricane season.

In recent weeks, API has published the first two of these RPs. One covers "jackups" which are mobile offshore units (MODUs) with a buoyant hull and legs that can be moved up or down relative to the hull and the seafloor. The other covers floating MODUs, which are drilling rigs that can be moved between drilling locations and moored (anchored) in place during operations.

Both of these RPs can be obtained free of charge by going to API's website at www.api.org/pubs. Both are interim measures and should be seen as works in progress. Once our longer-term efforts are completed, the interim RPs will be withdrawn. Longer-term industry studies are underway to assess mooring systems and station-keeping technology, as well as meteorological and oceanographic conditions during hurricanes in the Gulf.

-- Hurricane Preparedness: Refineries and Pipelines

During last year's hurricanes, refinery and pipeline operations were safely shut down as storms approached and then safely restarted. The challenges presented by Katrina and Rita required companies to be as flexible as possible and think "out of the box." For example, one refinery shipped crude via vessel when pipelines did not have power, and refineries operated as terminals to minimize supply disruptions.

Based on this experience, the industry is working with authorities to clarify priorities for generators and power restoration; ensure industry employees can gain access to critical facilities in restricted areas; and provide security so fuel is available for emergency vehicles. Companies are also making their own arrangements to insure equipment and maintenance supplies being stockpiled and pre-positioned. Awareness of potential problems like scarce materials or workers, permit issues and system bottlenecks has been increased.

Refineries are complex. It takes more than a flip of a switch to get a refinery back up and running. In a normal situation, once the decision has been made that it is safe to start-up the refinery, it can take several days before the facility is back to full operating levels. This is because the process units and the associated equipment must be returned to operations in a staged manner to ensure a safe and successful start-up.

Once a hurricane leaves the region, refinery managers assess what impact the hurricane had on their facilities. If any damage has occurred, repairs will need to be made before the refinery can be brought back online. Also, any flooding – a potentially significant problem – will need to be dealt with before restarting the refinery.

In the case of a start-up following a hurricane, other factors could cause further delay. These factors include the availability of crude oil, electricity to run the plant, and water used for cooling the process units.

Refineries have been prepared with hurricane preparedness and response plans for a very long time. Safety for neighboring communities and employees is a top priority. It takes a few days to shut down a refinery, and the better job done at shutdown, the more likely will be a smooth and safe startup.

Commercial electric power availability is also essential for pipeline operations. The ability of emergency response officials at the federal, state and local levels to facilitate, coordinate and prioritize the response of electric power utilities is essential. In-place backup generation equipment would be just as vulnerable as the local utility to major storm or attack, costly and difficult to accommodate in pipeline facilities.

The lack of reliable telecommunications was a major issue in slowing pipeline response to last year's storms. In many cases land lines were out and cell coverage was spotty at best. Even when land lines were available, A/C-powered phones were useless. Satellite communication worked well but had its limitations. The number of units available was often limited and proper setup took some time. Locations for satellite usage were at times limited. Loss of computing services removed email as a viable communications tool, except in some instances where personal data assistants (blackberries, cell phone text messaging, etc.) allowed personnel to keep in touch.

Moving forward into the 2006 hurricane season, companies are reviewing the communication needs identified in their facility response plans so that any gaps can be addressed and redundant communications systems can be established to better insure that communication loss is kept to a minimum, if not avoided, during an event.

Through our efforts to bring government and industry together to discuss what worked and what needed improvement, it became clear that strategies to diversify communications options, including the use of all modes of voice and data communications, priority access to telephone services, and even the acquisition of cell phones with out-of-area telephone numbers could improve telecommunications.

The federal government should be commended on how quickly it was able to learn from Hurricane Katrina. For instance, more clearly delineated contact points within the federal government made Rita response easier than Katrina response – there were fewer duplicate requests for updates and better use of designated contacts. This also made it easier to get federal help when needed as we had much improved channels into the government.

-- Hurricane Preparedness: Service Stations

At the retail level, companies are working with their service station dealers to establish employee "call trees" and alternate contact methods to ensure adequate staffing of retail outlets during hurricanes. In addition, routes for refueling stations on evacuation routes are being prioritized and alternative drivers for terminals (with proper certification) are being identified. Finally, consideration is being given to such possible, additional steps as separate skid tanks for emergency service vehicles and having duplicate keys for all building and trucks.

Following last year's hurricanes, some advocated requiring the placement of electrical generators in petroleum terminals and retail stations for backup use in future hurricanes.

API is opposed to imposing generator requirements. Some stations do not have a sufficiently large footprint to accommodate setback requirements for generators – particularly in large population centers where there is a premium for land. Moreover, generators are very expensive to purchase or rent, which would place a heavy cost burden on dealers. Smaller generators or other solutions can increase the risks of handling fuels and create an emergency within an emergency.

Generators installed permanently at a station can be damaged during a storm rendering the generator useless. Furthermore, generators require diesel fuel that the majority of stations do not carry – this creates competition for diesel and diesel delivery trucks required by emergency responders and critical care facilities (for example, hospitals and nursing homes).

-- Hurricane Preparedness: Industry Security

Providing security in the aftermath of a hurricane is particularly important and difficult. In the aftermath of Katrina and Rita, the ranks of local law enforcement were significantly depleted as officers elected to look after their families, which in many instances meant leaving the area. There are, of course, a great number of other interests competing with the need to protect critical infrastructure. Nevertheless, refineries and other similar infrastructure are at an elevated risk during a hurricane emergency and

require protection by local law enforcement, state police, National Guard, or other entities that can fill the void.

In the aftermath of a hurricane, companies' priorities are to ensure the safety of their employees, gain access to the facility to conduct an assessment of the damage, provide security and control access to the site, facilitate any immediate safety and/or environmental remediation, undertake cleanup, make repairs of critical operating elements, and initiate restart of the facility.

Conducting an assessment of the site necessitates first getting an assessment of the damaged area and then, when that area has been determined to be safe, obtaining immediate access to the site becomes critical. Preliminary assessment of the damaged areas via satellite imagery and high-resolution, low-altitude fly-overs is extremely valuable as companies do not want to send responders and other employees into unsafe areas. Again, employee safety is a company's paramount concern, and very little will be accomplished if crews are sent into impacted areas and become part of the casualty list rather than part of the solution to getting operations up and running.

Getting imagery of an impacted facility and the surrounding area as early as possible will help shape company decisions on deploying response and rescue teams. In some instances, during the 2005 hurricane response, public sector personnel attempted to restrict access based upon the need to maintain law and order. In the aftermath of Katrina and Rita, roadblocks and other impediments were established to ensure that only first

responders were provided access. However, this did pose some challenges for companies attempting to transport necessary supplies via ground transport. Generally, these challenges involved coordinating with law enforcement officials to obtain permits authorizing access into affected areas.

One concern was that emergency electrical generators, gas, food, and other necessities that companies were attempting to deliver to their locations would be seized by local agencies. Companies made special arrangements for materials to be carried in convoys comprising several vehicles and escorted by local law enforcement.

As we prepare for this year's hurricane season, the industry is keeping in mind lessons from the Katrina/Rita experience, including the following:

- Housing for rescue, response and facility and infrastructure repair personnel in the storm-affected areas can be a major bottleneck to beginning recovery operations.
- Development of a formal communications channel into governmental response organizations/departments is extremely helpful.
- Communication and coordination between agencies at the federal, state and local levels is imperative for an efficient and effective hurricane response.
- Development of an established process to expedite access to those areas shut down after a major disaster to begin rebuilding of critical industries is needed.

IV. CONCLUSION

API and the industry will continue to work closely with government agencies to learn from the recent hurricane experiences. API's publication of the first two interim recommended practices for mobile offshore rigs and our sponsorship of and participation in hurricane preparedness meetings and conferences illustrate how the industry is moving ahead rapidly to draw upon our experiences of last summer and be better prepared as the next hurricane season begins. Working together, industry and government can meet the challenges we face.

Mr. ISSA. Thank you very much, and Mr. Slocum, very good to have you back with us.

Please give us your best and—I always note that you work off of a lot of personal notes and have done a lot of personal presentations, and I always appreciate that, as does, I think, the entire committee.

STATEMENT OF TYSON SLOCUM

Mr. SLOCUM. Well, thank you, and thank you, Mr. Chairman and Representative Watson, for the opportunity to be here today.

Again, my name is Tyson Slocum, and I'm the director of the energy program at Public Citizen. My organization is America's largest consumer group. We represent over 100,000 people across the United States.

We heard some excellent testimony earlier today from some of the government witnesses, and I want to provide more of a bird's eye view of some of the challenges that we're facing today. What I see from my view is an oil industry that is not prepared to meet America's energy challenges, especially in the refining and other downstream aspects of our sector.

What I see from the economic investment decisions by the oil industry, complemented with statements that they have made to the media and to investigators at the Federal Trade Commission and others, is that they will not make adequate investments in downstream, particularly in refining, because it is not in their financial incentive to do so, from various statements that they have made to the media and to Federal investigators. It is their personal financial self-interest to maintain as tight supplies as possible, because that guarantees larger profit margins for their operations. Now, that is what they should be doing for their shareholders, and I think what the job of Congress and Government is to do is to make sure that citizens are represented well in this equation, and that is why Public Citizen has a reform plan to address some of these systemic problems that we see in America's energy markets.

First, we agree with the chairman's call for a strategic refining reserve of some sort, because it was clear after Hurricane Katrina that America's strategic petroleum reserve worked wonderfully.

All of this oil production was knocked out of service, and we have over 800 million barrels of crude oil in reserve that we were able to immediately release and supply refineries.

I do not know why the market price of crude oil jumped the way it did, because there was no justification for it from a market perspective, because there was never any threat to crude oil supplies.

Now, the same could not be said for refined products, because America does not have a Federal refined product reserve.

Luckily, we were able to quickly import it from Europe, but I do not think that we should rely on that to happen again.

So, we are definitely calling for a strategic refining reserve, and having the oil industry help finance the establishment and maintenance of such a reserve through something like a windfall profits tax, since the industry is clearly reaping huge financial windfalls from their control over crude and refined product supplies that they are selling to the American people.

The last time I checked, the Federal budget is running annual deficits of about a half-a-trillion dollars, whereas oil company profits are the largest in the U.S. economy. Clearly, they can afford to help finance such an initiative.

Second, doing something about U.S. energy demand would also help.

I know that, Mr. Chairman, you have discussed the need for improved fuel economy standards, and that is a major issue that Public Citizen also promotes. While we are the third largest crude oil producer in the world—only the Saudis and the Russians produce more oil every day than we do—we are far and away the largest consumer. We use one out of every four barrels of oil consumed every day, and we use oil very inefficiently. Our competitors in Europe and Asia use about half the oil per person that we do. Implementing strong fuel economy standards will make our use of oil and gas far more efficient, and that will reduce some of the pressures that we are seeing.

Third, I think investing in alternatives to oil and gas is another important strategy, but right now, it is going to take billions of dollars to do this.

For example, in promoting ethanol and bio-diesel, there are going to be challenges to bring these products to the marketplace.

We currently do not have any ethanol pipelines in the United States.

So, I think that government is going to have to take the lead on that kind of investment, and again, I think a windfall profits tax on the oil industry is an excellent and equitable means of financing such an investment.

Last, I think that revisiting some of the deregulation legislation over energy trading markets, where the prices of gasoline and crude oil are set, are very important for this committee to investigate, because with under-regulated trading markets, you are removing transparency, and any time you do not have an adequately transparent market, you increase the opportunity for nefarious activities to take place.

So, Mr. Chairman, thank you very much for your time, and I look forward to your questions.

[The prepared statement of Mr. Slocum follows:]

Congress Watch • Energy Program • Global Trade Watch • Health Research Group • Litigation Group
Joan Claybrook, President

June 7, 2006

Testimony of Tyson Slocum, Director
Public Citizen's Energy Program

Before the U.S. House Committee on Government Reform, Subcommittee on Energy & Resources

Keeping the Fuel Flowing from the Gulf: Are We Prepared for the Hurricane Season?

Thank you, Mr. Chairman and members of the Committee on Government Reform, Subcommittee on Energy & Resources for the opportunity to testify. My name is Tyson Slocum and I am Director of Public Citizen's Energy Program. Public Citizen is a 35-year old public interest organization with over 100,000 members nationwide. We represent consumer interests through research, public education and grassroots organizing.

I last testified before this Committee in September 2005 on how the lack of adequate regulation in America's natural gas markets contributes to higher prices.[1] In February 2006 I testified before the U.S. Senate Judiciary Committee on how recent oil company mergers have diminished competition, leading to higher prices for consumers.[2]

With roughly twenty-five percent of the nation's domestic crude oil and 20 percent of the natural gas domestic production obtained from the Gulf of Mexico[3], and nearly 40 percent of America's refining capacity located on the Gulf Coast, a significant share of our energy resources remain vulnerable to hurricanes.

But the price spikes following last summer's hurricanes were not completely justified by the damage wrought by these storms. In fact, the price increases were just another example in the longer-term trend of high prices and huge energy company profits that stem in part to uncompetitive markets. The Federal Trade Commission has contributed to the problem by allowing too many mergers and taking a stance too permissive to anti-competitive practices, as evidenced by the conclusions in its most recent investigation (for example, finding evidence of

[1] www.citizen.org/documents/Natural%20Gas%20Testimony.pdf
[2] www.citizen.org/documents/senatetestimony06.pdf
[3] http://tonto.eia.doe.gov/oog/special/eia1_katrina.html

215 Pennsylvania Ave SE • Washington, DC 20003 • (202) 588-1000 • www.citizen.org • cmep@citizen.org

price-gouging by oil companies but explaining it away as profit maximization strategies, and opposing federal price-gouging statutes).[4]

Congress can follow Public Citizen's five-point plan to reform America's energy markets and promote sustainable alternatives to our reliance on fossil fuel:

- Implement a windfall profits tax, close loopholes allowing oil companies to escape paying adequate royalties and dedicate the revenues to financing clean alternative energy, energy efficiency, mass transit and rebates targeted to moderate- and low-income consumers.
- Strengthen anti-trust laws by empowering the Federal Trade Commission to crack down on unilateral withholding and other anti-competitive actions by oil companies.
- Establish a Strategic Refining Reserve (financed by a windfall profits tax on oil companies) to complement America's Strategic Petroleum Reserve.
- Re-regulate energy trading exchanges to restore transparency.
- Improve fuel economy standards to reduce gasoline demand.

Recent Mergers Create Uncompetitive Markets

Although the U.S. is the third largest oil producing nation in the world[5]—producing more oil than Iran, Kuwait and Qatar *combined*—we consume 25% of the world's oil every day, forcing us to import oil.

Sixty percent of the oil consumed in America is used as fuel for cars and trucks. Ten percent is for residential home heating oil, with the remainder largely for various industrial and agricultural processes (only 1.2% is to fuel electric power).[6]

Middle Eastern OPEC nations supply only 14% of America's oil and gas. Other OPEC nations—Indonesia, Nigeria and Venezuela—supply 13%, and non-OPEC nations such as Canada, Mexico, Norway and England provide 31% of our oil and gas needs.[7]

So it isn't so much an OPEC oil cartel, but rather a corporate cartel that should concern policymakers. Consider that the top five oil companies produce 9.9 million barrels of oil a day—more than Saudi Arabia's export of 8.73 million barrels of oil a day.

According to the U.S. Government Accountability Office, over 2,600 mergers have been approved in the U.S. petroleum industry since the 1990s. In just the last few years, mergers between giant oil companies—such as Exxon and Mobil, Chevron and Texaco, Conoco and Phillips—have resulted in just a few companies controlling a significant amount of America's gasoline, squelching competition. And the mergers continue unabated as the big just keep getting

---

[4] www.ftc.gov/reports/060518PublicGasolinePricesInvestigationReportFinal.pdf
[5] www.eia.doe.gov/emeu/cabs/topworldtables1_2.html
[6] *Adjusted Sales of Distillate Fuel Oil by End Use in the U.S., 2004*, http://tonto.eia.doe.gov/dnav/pet/pet_cons_821dsta_dcu_nus_a.htm
[7] *Net Imports of Crude Oil and Petroleum Products in the United States by Country, 2004*, www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_supply_annual/psa_volume1/current/pdf/table_29.pdf

bigger: in August 2005 ChevronTexaco acquired Unocal, and in December 2005 ConocoPhillips acquired Burlington Resources. A number of independent refineries have been closed, some due to uncompetitive actions by larger oil companies, further restricting capacity. As a result, consumers are paying more at the pump *than they would if they had access to competitive markets* and five oil companies are reaping the largest profits in history. Since 2001, the six largest oil refining companies operating in America—ExxonMobil, ConocoPhillips, ChevronTexaco, Valero, Shell and BP—have recorded $350 *billion* in profits[8]. While of course America's tremendous appetite for gasoline plays a role, uncompetitive practices by oil corporations are a cause—more so than OPEC or environmental laws—of high gasoline prices around the country.

When communicating to the general public and lawmakers, oil companies downplay these record earnings by calculating profits differently when they communicate with Wall Street and shareholders. When speaking to lawmakers and the general public, the oil industry highlights the small profit margins (typically around 8 to 10 percent) that measuring net income as a share of total revenues produces.

But that's not the measurement ExxonMobil and other energy companies use when talking to investors and Wall Street. For example, here's an excerpt from the company's 2005 annual report: "ExxonMobil believes that return on average capital employed (ROCE) is the most relevant metric for measuring financial performance in a capital-intensive business such as" petroleum.[9]

ExxonMobil's 2005 10-k shows that that company's global operations enjoyed a 30.9 percent rate of return on average capital employed. And the company's rate of profit in the U.S. was even higher: domestic drilling provided a 46.0 percent rate of return on average capital employed, while domestic refining returned 58.8 percent.[10] The company is making its biggest profit margins off the U.S. market.

The oil industry has also been falsely using the weather as an excuse for their record profits. Oil and gasoline prices—and oil company profits—were rising long before Hurricane Katrina wreaked havoc. U.S. gasoline prices jumped 23% from June 6 to Aug. 22 (Katrina made landfall at New Orleans on August 29).[11]

Indeed, margins for U.S. oil refiners have been at record highs. In 1999, U.S. oil refiners enjoyed a 22.8 cent margin for every gallon of gasoline refined from crude oil. By 2004, they were enjoying a 40.8 cent margin for every gallon of gasoline refined, a 79% jump.[12] And, according to industry analysts, those margins have soared even higher in 2005, to 99 cents on each gallon sold.[13]

---

[8] Through the first quarter of 2006.
[9] www.exxonmobil.com/corporate/files/corporate/sar_2005.pdf, page 19.
[10] www.sec.gov/Archives/edgar/data/34088/000119312506040951/d10k.htm
[11] http://tonto.eia.doe.gov/dnav/pet/hist/mg_tt_usw.htm
[12] *Refiner Sales Prices and Refiner Margins for Selected Petroleum Products, 1988-2004*, www.eia.doe.gov/emeu/aer/pdf/pages/sec5_53.pdf
[13] Justin Blum, "Gas Profit Guzzlers," *The Washington Post*, September 25, 2005, Page F01.

Faced with these facts, Congress and the White House instead recently passed energy legislation that does nothing to address any of the fundamental problems plaguing America's energy policies—after all, if it did, why are having this hearing today? The House voted to approve HR 6, the "comprehensive" energy bill, by a vote of 275 to 156 [14], even though the only "comprehensive" aspect of the legislation is the $5 billion in subsidies to oil companies.[15] The only possible explanation for why Congress would bestow these subsidies on oil companies are the $59 million in campaign contributions by the oil industry to Congress and the White House since 2001, with 81% of that total going to Republicans.[16] In addition, the oil and natural gas industry has spent $258.5 million lobbying Congress and the Executive Branch over that same time period.[17]

Environmental regulations are not restricting oil drilling in the United States. An Interior Department study concludes that federal leasing restrictions—in the form of wilderness designations and other leasing restrictions—completely block drilling of only 15.5% of the oil in the five major U.S. production basins on 104 million acres stretching from Montana to New Mexico. While only 15.5% is totally off-limits, 57% of America's oil reserves on federal land are fully available for drilling, with the remaining 27.5% featuring partial limitations on drilling.[18] This report contradicts industry claims that environmental laws are squelching production.

The consolidation of downstream assets—particularly refineries—plays a big role in determining the price of a gallon of gas. Recent mergers have resulted in dangerously concentrated levels of ownership over U.S. oil refining.

In 1993, the five largest U.S. oil refining companies controlled 34.5% of domestic oil refinery capacity; the top ten companies controlled 55.6%. By 2004, the top 5—ConocoPhillips, Valero, ExxonMobil, Shell and BP—controlled 56.3% and the top ten refiners controlled 83%. As a result of all of these recent mergers, the largest 5 oil refiners today control more capacity than the largest 10 did a decade ago. This dramatic increase in the control of just the top five companies makes it easier for oil companies to manipulate gasoline by intentionally withholding supplies in order to drive up prices. Because most of the largest companies are also vertically integrated, they enjoy significant market share in oil drilling and retail sales.

ExxonMobil's new CEO told the Wall Street Journal that because American fuel consumption will continue growing for the next decade, they have no plans to build any new refineries:

> *Exxon Mobil Corp. says it believes that, by 2030, hybrid gasoline-and-electric cars and light trucks will account for nearly 30% of new-vehicle sales in the U.S. and Canada. That surge is part of a broader shift toward fuel efficiency that Exxon thinks will cause fuel consumption by North American cars and light trucks to peak around 2020—and then start to fall. "For that reason, we wouldn't build a grassroots refinery" in the U.S.,*

[14] http://clerk.house.gov/evs/2005/roll445.xml
[15] www.citizen.org/cmep/energy_enviro_nuclear/electricity/energybill/2005/articles.cfm?ID=13980
[16] www.opensecrets.org/industries/indus.asp?Ind=E01
[17] www.opensecrets.org/lobbyists/indusclient.asp?code=E01&year=2005
[18] *Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves and the Extent and Nature of Restrictions or Impediments to Their Development*, BLM/WO/GI-03/002+3100, January 2003, www.doi.gov/news/030116a.htm; www.blm.gov/nhp/spotlight/epca/EPCA_fact_sheet_draft06.htm

> *Rex Tillerson, Exxon's chairman and chief executive, said in a recent interview. Exxon has continued to expand the capacity of its existing refineries. But building a new refinery from scratch, Exxon believes, would be bad for long-term business.*[19]

ExxonMobil and other oil companies are not building new refineries because it is in their financial self interest to keep refining margins as tight as possible, as that translates into bigger profits. As a result of this strategy of keeping refining capacity tight, energy traders in New York are pushing the price of gasoline higher, and then trading the price of crude oil up to *follow* gasoline:

"Last time, Mother Nature intervened in the market [in the form of Hurricane Katrina]," [Larry] Goldstein [president of New York-based Petroleum Industry Research Foundation] said. "This time, prices are being driven by market forces," ***with gasoline pulling crude and other forms of fuel higher,*** *he says.*[20]

In March 2006, U.S. commercial inventories of crude oil surpassed 342 million barrels—the highest level since March 1999.[21] Despite this record domestic surplus, energy traders continue to push the price of crude oil up.

Even the U.S. Federal Trade Commission found widespread evidence of anti-competitive practices in its March 2001 *Midwest Gasoline Price Investigation*:[22]

The completed [FTC] investigation uncovered no evidence of collusion or any other antitrust violation. In fact, the varying responses of industry participants to the [gasoline] price spike suggests that the firms were engaged in individual, not coordinated, conduct. Prices rose both because of factors beyond the industry's immediate control and because of conscious (but independent) choices by industry participants...each industry participant acted unilaterally and followed individual profit-maximization strategies...It is not the purpose of this report - with the benefit of hindsight - to criticize the choices made by the industry participants. Nonetheless, a significant part of the supply reduction was caused by the investment decisions of three firms...One firm increased its summer-grade RFG [reformulated gasoline] production substantially and, as a result, had excess supplies of RFG available and had additional capacity to produce more RFG at the time of the price spike. This firm did sell off some inventoried RFG, but it limited its response because selling extra supply would have pushed down prices and thereby reduced the profitability of its existing RFG sales. ***An executive of this company made clear that he would rather sell less gasoline and earn a higher margin on each gallon sold than sell more gasoline and earn a lower margin. Another employee of this firm raised concerns about oversupplying the market and thereby reducing the high market prices. A decision to limit supply does not violate the antitrust laws, absent some agreement among firms. Firms that withheld or delayed shipping additional supply in the face of a price spike did not violate the antitrust laws. In each instance, the firms chose strategies they thought would maximize their profits.***

Although federal investigators found ample evidence of oil companies intentionally withholding supplies from the market in the summer of 2000, the government has not taken any action to prevent recurrence.

---

[19] Jeffrey Ball, "As Gasoline Prices Soar, Americans Resist Major Cuts in Consumption," *The Wall Street Journal*, May 1, 2006.
[20] Bhushan Bahree, "Oil Prices Show No Sign of Slowing," *The Wall Street Journal*, April 10, 2006.
[21] http://tonto.eia.doe.gov/dnav/pet/hist/mcestus1m.htm
[22] www.ftc.gov/os/2001/03/mwgasrpt.htm

A congressional investigation uncovered internal memos written by major oil companies operating in the U.S. discussing their successful strategies to maximize profits by forcing independent refineries out of business, resulting in tighter refinery capacity. From 1995-2004, 97% of the more than 928,000 barrels of oil per day of capacity that has been shut down were owned by smaller, independent refiners.[23] Were this capacity to be in operation today, refiners could use it to better meet today's reformulated gasoline blend needs.

Strengthening anti-trust enforcement to limit the ability of oil companies to engage in such anti-competitive behavior will clearly benefit consumers. In addition, Congress should also consider the merits of a Strategic Refinery Reserve (SRR), to complement the successful Strategic Petroleum Reserve. Such an SRR could be built and operated by the Department of Energy, and the refined products produced at the facility could be placed in reserve to be released in times of natural disasters or price spikes. An SRR would prove useful in diminishing the ability of oil companies to engage in unilateral withholding, as the SRR could be used to release supplies to satisfy the needs of consumers, thereby lowering prices.

The FTC must also examine the concentration of ownership over refined product and crude oil pipelines. For example, the Colonial Pipeline system, which runs over 5,000 miles from Texas to New Jersey where much of the retail gas price spikes were concentrated along its route in the aftermath of Hurricane Katrina, is controlled by many of the major oil companies: Koch (28.09 percent), ChevronTexaco-Unocal (23.44 percent), ConocoPhillips-Burlington Resources (16.55 percent), Shell Oil (16.12 percent) and Citgo (15.8 percent).

FTC Not Adequately Protecting Consumers

The FTC consistently allows refining capacity to be controlled by fewer hands, allowing companies to keep most of their refining assets when they merge, as a recent overview of FTC-approved mergers demonstrates.

The major condition demanded by the FTC for approval of the August 2002 ConocoPhillips merger was that the company had to sell two of its refineries—representing less than 4% of its domestic refining capacity. Phillips was required only to sell a Utah refinery, and Conoco had to sell a Colorado refinery. But even with this forced sale, ConocoPhillips remains the largest domestic refiner, controlling refineries with capacity of 2.2 million barrels of oil per day—or 13 percent of America's entire capacity.

The major condition the FTC set when approving the October 2001 ChevronTexaco merger was that Texaco had to sell its shares in two of its joint refining and marketing enterprises (Equilon and Motiva). Prior to the merger, Texaco had a 44% stake in Equilon, with Shell owning the rest; Texaco owned 31% of Motiva, with the national oil company of Saudi Arabia (Saudi Aramco) also owning 31%, and Royal Dutch Shell owning the remaining 38%. The FTC allowed Shell to purchase 100% of Equilon, and Shell and Saudi Aramco bought out Texaco's share of Motiva, leaving Motiva a 50-50 venture between Shell and Saudi Aramco.

[23] Energy Information Administration Form EIA-820, *Annual Refinery Report.*

Prior to the merger, Texaco's share of Equilon and Motiva refinery capacity equaled more than 500,000 barrels of oil per day—which was simply scooped up by another member of the elite top five companies, Shell. Had the FTC forced Texaco to sell its share to a smaller, independent company, the stranglehold by the nation's largest oil companies could have been weakened.

As a condition of the 1999 merger creating ExxonMobil, Exxon had to sell some of its gas retail stations in the Northeast U.S. and a single oil refinery in California. Valero Energy, the nation's fifth largest owner of oil refineries, purchased these assets. So, just as with the ChevronTexaco merger, the inadequacy of the forced divestiture mandated by the FTC was compounded by the fact that the assets were simply transferred to another large oil company, ensuring that the consolidation of the largest companies remained high.

The sale of the Golden Eagle refinery was ordered by the FTC as a condition of Valero's purchase of Ultramar Diamond Shamrock in 2001. Just as with ExxonMobil and ChevronTexaco, Valero sold the refinery, along with 70 retail gas stations, to another large company, Tesoro. But while the FTC forced Valero to sell one of its four California refineries, the agency allowed the company to purchase Orion Refining's only refinery in July 2003, and then approved Valero's purchase of the U.S. oil refinery company Premcor. This acquisition of Orion's Louisiana refinery and Premcor defeats the original intent of the FTC's order for Valero to divest one of its California refineries.

The recent FTC investigation[24] downplays the impact on competition from allowing such consolidation, and stands in stark contrast to the May 2004 conclusions reached by the U.S. Government Accountability Office report[25] which found that recent mergers in the oil industry have directly led to higher prices. It is important to note that this GAO report severely *underestimates* the impact mergers have on prices because their price analysis *stops* in 2000—long before the mergers that created ChevronTexaco-Unocal, ConocoPhillips-Burlington Resources, and Valero-Ultramar/Diamond Shamrock-Premcor.

Over-the-Counter Energy Disclosure is Underregulated

Contracts representing hundreds of millions of barrels of oil are traded every day on the London and New York trading exchanges. An increasing share of this trading, however, has been moving off regulated exchanges such as the New York Mercantile Exchange (NYMEX) and into unregulated Over-the-Counter (OTC) exchanges. The Bank of International Settlements estimates that in 2004, the global OTC market has grown to over $248 *trillion*. Growth in global OTC derivatives markets has averaged 31.6% since 1990.[26] Traders operating on exchanges like NYMEX are required to disclose significant detail of their trades to federal regulators. But traders in OTC exchanges are not required to disclose such information allowing companies like Goldman Sachs, Morgan Stanley and hedge funds to escape federal oversight and more easily engage in manipulation strategies.

---

[24] www.ftc.gov/reports/060518PublicGasolinePricesInvestigationReportFinal.pdf
[25] *Effects of Mergers and Market Concentration in the U.S. Petroleum Industry*, GAO-04-96, www.gao.gov/new.items/d0496.pdf
[26] www.financialpolicy.org/fpfspb25.htm

A recent congressional investigation concluded that "crude oil prices are affected by trading not only on regulated exchanges like the NYMEX, but also on unregulated OTC markets that have become major trading centers for energy contracts and derivatives. The lack of information on prices and large positions in OTC markets makes it difficult in many instances, if not impossible in practice, to determine whether traders have manipulated crude oil prices."[27]

And these energy traders happily boast in public about how they're price-gouging Americans, as a recent Associated press article makes clear: energy "traders who profited enormously on the supply crunch following Hurricane Katrina cashed out of the market ahead of the long weekend. 'There are traders who made so much money this week, they won't have to punch another ticket for the rest of this year,' said Addison Armstrong, manager of exchange-traded markets for TFS Energy Futures."[28]

Public Citizen has supported efforts to re-regulate energy trading by subjecting OTC markets to tougher oversight. But the latest such effort, an amendment to the energy bill, was rejected by the Senate by a vote of 55-44 in June 2003.[29]

But manipulation occurs even on the regulated exchanges. Just last month, the U.S. Commodity Futures Trading Commission issued a civil penalty against Shell Oil for "non-competitive transactions" in U.S. crude oil futures markets.[30]

The CFTC has a troublesome streak of "revolving door" appointments and hiring which may further hamper the ability of the agency to effectively regulate the energy trading industry. In August 2004, CFTC chairman James Newsome left the Commission to accept a $1 million yearly salary as president of NYMEX, the world's largest energy futures marketplace. Just weeks later, Scott Parsons, the CFTC's chief operating officer, resigned to become executive vice-president for government affairs at the Managed Funds Association, a hedge-fund industry group that figures prominently in energy derivatives markets. Such prominent defections hampers the CFTC's ability to protect consumers.

Why We Need a Windfall Profits Tax

In most industries, when the main component (crude oil) of a product (gasoline) skyrockets in price, those higher costs eat into profit margins. But not the oil industry, because ExxonMobil and the other major oil companies operate as a type of monopoly, with massive oil production, refining and retail marketing operations.

House Speaker J. Dennis Hastert recently scolded the industry's profits, saying "It is time to invest in America…we expect oil companies to do their part to help ease the pain American families are feeling from high energy prices."[31]

---

[27] *U.S. Strategic Petroleum Reserve: Recent Policy Has Increased Costs to Consumers But Not Overall U.S. Energy Security*, www.access.gpo.gov/congress/senate/senate12cp108.html

[28] The Associated Press, September 2, 2005.

[29] www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=108&session=1&vote=00218

[30] www.cftc.gov/opa/enf06/opa5150-06.htm

[31] Carl Hulse, "Republicans Ask Oil Industry for Help with Fuel Prices," *The New York Times*, October 26, 2005.

But only one company—Citgo—has bothered to heed Hastert's call. The company, a U.S. subsidiary of the Venezuelan state oil company, has dedicated tens of millions of dollars for low income American families.

With other oil companies failing to take action to protect America's middle- and low-income families from the high energy prices that fuel their profits, Public Citizen supports a Windfall Profits Tax. Proceeds from such a tax could not only provide refunds for consumers to help protect them from high home heating prices this winter, but the tax could be used to finance important investments. Proceeds from the tax could fund rebates for homeowners to upgrade their insulation, replace drafty windows and trade in their old appliances for more energy efficient ones. Revenues from the tax could be used to encourage consumers to buy more fuel efficient, hybrid or alternative fuel cars. And such a tax on oil companies could also be directed to state and local governments to fully fund public transportation. For example, in 2003 (the last year for which data is available), governments at the Federal, state and local levels spent a combined $23.2 billion in subsidies for public transit systems.[32] Compare that with the $36 billion earned last year by ExxonMobil alone. Clearly, oil companies can afford to contribute more to investing in solutions to America's energy problems than they currently are.

Naysayers argue the Windfall Profits Tax didn't work the last time we tried it. The Windfall Profits Tax of 1980-88 was ineffective not because of the tax itself, but because oil prices fell shortly after enactment of the tax due to global events unrelated to U.S. tax policy. Congress enacted the Windfall Profits Tax in 1980 after U.S. oil company profits surged following the Iranian Revolution and the resulting Iran-Iraq war, which caused oil prices to increase from $14/barrel in 1979 to $35/barrel by January 1981. But after 1981, crude oil prices steadily decreased until completely bottoming out in 1986-87 as demand slackened and as other oil producing countries increased their output. As the value of the commodity subject to tax (oil) fell, the effectiveness of the tax was diminished.

But that was then. The Wall Street Journal recently concluded that "a crash looks unlikely now, both because supplies remain tight and because of the large volumes of money that investors are pouring into oil markets."[33]

In addition to a Windfall Profits Tax, Congress needs to reform the royalty system imposed on companies drilling for oil and natural gas on public land. One-third of the oil and natural gas produced in the United States comes from land owned by the taxpayers, but royalty payments by oil companies have not been keeping up with the explosion in energy prices and profits enjoyed by the industry. A recent investigation[34] concluded that while energy "prices nearly doubled from 2001 to 2005, the $5.15 billion in gas royalties for 2005 was less than the $5.35 billion in 2001. When oil and gas are combined, royalties were about $8 billion in 2005, almost the same as in 2001." Taxpayers must be fairly compensated for allowing oil companies the privilege of extracting resources from federally-owned land.

---

[32] www.apta.com/research/stats/factbook/

[33] Bhushan Bahree and Ann Davis, "Oil Settles Above $70 a Barrel, Despite Inventories at 8-year High," April 18, 2006.

[34] Edmund L. Andrews, "As Profits Soar, Companies Pay U.S. Less for Gas Rights," *The New York Times*, January 23, 2006.

Some states are addressing higher gasoline prices by suspending gas taxes. Public Citizen does not support such a move, as it not only fails to address the underlying market problems causing higher prices, but reduces revenues that states need to help finance solutions such as mass transit.

Raise Fuel Economy Standards to Lower Our Oil Consumption

Due to increasing numbers of gas-guzzling SUVs on America's roads and the absence of meaningful increases in government-set fuel economy standards, America's fuel economy standards are lower today than a decade ago.

The Environmental Protection Agency found that the average fuel economy of 2005 vehicles is 21 miles per gallon (mpg), compared to 22.1 mpg in 1988—a 5% decline.[35] This drop is attributable to the fact that fuel economy standards haven't been meaningfully increased since the 1980s. And sales of fuel inefficient SUVs and pickups have exploded: in 1987, 28% of new vehicles sold were light trucks, compared to 50% in 2005.

The National Highway Traffic Safety Administration isn't doing enough under the Energy Policy Act to enact the maximum feasible fuel economy increase, and isn't putting enough pressure to challenge manufacturers to do better.

Billions of gallons of oil could be saved if significant fuel economy increases were mandated. Improving fuel economy standards for passenger vehicles from 27.5 to 40 mpg, and for light trucks (including SUVs and vans) from 22.2[36] to 27.5 mpg by 2015 (for a combined fleet average of 34 miles per gallon) would reduce our gasoline consumption by one-third. But the U.S. Senate soundly rejected such a move on June 23, 2005 by a vote of 67 to 28.[37]

Some who oppose improving fuel economy standards claim that raising them will result in American job losses. But how many jobs are being lost from sustained high energy prices caused in part by the failure to stem America's growing oil demand? And recent announcements by GM and Ford to cut 60,000 North American jobs can be directly tied to the companies' loss of market share due to over-investment in SUVs and other fuel-guzzling vehicles, which turn around a fast and sizeable profit but do not sell well in these times of 2- and almost 3-dollar-a-gallon gas prices. Some foreign manufacturers invested in more fuel-efficient vehicles, and have paved the way for a future of improved fuel economy with hybrid vehicles.

---

[35] *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2005*, EPA420-R-05-001, July 2005, www.epa.gov/otaq/cert/mpg/fetrends/420r05001.pdf

[36] On March 31, 2003, the U.S. Department of Transportation issued new light truck fuel economy standards, increasing the standard from 20.7 to 21.0 mpg for Model Year (MY)2005, to 21.6 mpg for MY2006, and to 22.2 mpg for MY2007.

[37] www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=109&session=1&vote=00157

Table 1.

Breakdown of ExxonMobil Profits: US Operations Driving Profitability

	2001	2002	2003	2004	2005
All ExxonMobil Operations					
Net income	$ 15,320,000,000	$ 21,510,000,000	$ 25,330,000,000	$ 7,860,000,000	$ 36,130,000,000
Average Capital Employed	88,000,000,000	$ 88,342,000,000	$ 95,373,000,000	$ 107,339,000,000	$ 116,961,000,000
Return on Capital, Companywide	17.4%	24.3%	26.6%	7.3%	30.9%
US Oil Production Only					
Net income	$ 3,933,000,000	$ 2,524,000,000	$ 3,905,000,000	$ 4,948,000,000	$ 6,200,000,000
Average Capital Employed	$ 12,952,000,000	$ 13,264,000,000	$ 13,508,000,000	$ 13,355,000,000	$ 13,491,000,000
Return on Capital, US Oil Production Only	30.4%	19.0%	28.9%	37.0%	46.0%
US Oil Refining Only					
Net income	$ 1,924,000,000	$ 693,000,000	$ 1,348,000,000	$ 2,186,000,000	$ 3,911,000,000
Average Capital Employed	$ 7,711,000,000	$ 8,060,000,000	$ 8,090,000,000	$ 7,632,000,000	$ 6,650,000,000
Return on Capital, US Oil Refining Only	25.0%	8.6%	16.7%	28.6%	58.8%

Table 2.

Mergers Concentrate the U.S. Oil Refinery Industry: Changes in Control of Market Share 1993 to 2004

1993		2004	
Company	Market Share	Company	Market Share
Chevron	9.1%	ConocoPhillips-Tosco-Flying J-Big West Oil-Burlington Resources	13.0%
Exxon	6.6%	Valero-Ultramar-Diamond Shamrock-Orion Refining-Premcor-TPI	12.8%
Amoco	6.5%	ExxonMobil-Chalmette	11.9%
Texaco-Star Enterprise	6.2%	Shell-Motiva-Equilon-Pennzoil-Quaker State-Deer Park	9.8%
Mobil	6.0%	BP	8.8%
Top 5 in 1993	**34.5%**	**Top 5 in 2004**	**56.3%**
Shell	4.9%	ChevronTexaco-Unocal	5.9%
BP	4.4%	Citgo-PDV-Lyondell	5.8%
Citgo (PDV)/Lyondell	4.2%	Marathon	5.5%
Arco/Lyondell	3.8%	Sunoco	5.3%
Marathon	3.8%	Koch-Flint Hills	4.5%
Top 10 in 1993	**55.6%**	**Top 10 in 2004**	**83.3%**

Note: Lyondell refinery capacity in 1993 is equally split between two of its equity partners at the time, Citgo and Arco.

SOURCE: Compiled by Public Citizen's Energy Program <www.citizen.org/cmep> from corporate annual reports and U.S. Energy Information Administration data.

Table 3.

The Top 5 Oil Company 2004 Market Share, Profits and Campaign Contributions

Company	Merger Activity	Domestic Oil Refinery Market Share	Profits 2001-06 *	Campaign Contributions 2001 to Present	% to GOP
ConocoPhillips - Burlington Resources	Aug. '02 - Conoco + Phillips merge; Tosco acquired in Sept. '01; 50-50 venture in Flying J; Dec '05 buys Burlington	13.0%	$ 31,050,000,000	$ 1,185,227	85%
Valero Energy	2001 - Valero merged with Ultramar/Diamond Shamrock. In July '03, Valero acquired Orion Refining; in August '05 Valero acquired Premcor	12.8%	$ 7,519,400,000	$ 1,441,975	80%
ExxonMobil	Nov. '99 - Exxon + Mobil merge	11.9%	$ 118,150,000,000	$ 2,411,119	89%
Royal Dutch Shell	Feb. '02 - Acquired Texaco's shares in Equilon and Motiva, so Shell now owns all of Equilon while Motiva is a 50-50 venture with Saudi Aramco; In 2002 Shell Acquired Pennzoil-Quaker State	9.8%	$ 82,259,000,000	$ 499,979	62%
BP	April '00 - BP acquires Arco; 1998 BP acquires Amoco	8.8%	$ 67,829,000,000	$ 916,036	68%
Total, Top 5		56.3%	$ 306,807,400,000	$ 6,454,336	81%
addendum a					
ChevronTexaco - Unocal	Oct. '01 - Chevron + Texaco; Aug '05 buys Unocal	5.9%	$ 43,077,000,000	$ 2,014,510	77%
addendum b					
total campaign contributions by entire oil industry from 2001 to present				**$ 59,205,818**	**81%**

* through first quarter 2006

SOURCE: Compiled in February 2006 by Public Citizen's Energy Program <www.citizen.org> based on corporate annual reports; the U.S. Energy Information Administration; and the Center for Responsive Politics.

Mr. ISSA. Thank you.

I have a lot of questions for Mr. Greco, but I want to lead off with one or two for you, Mr. Slocum.

First of all, I think we probably, from the citizen's standpoint, can agree that lower prices for citizens' cost of energy is a goal but that lower prices fly in the face of the incentive to save, that, unfortunately, we want one but the other causes us to consume less. Would that be a fair statement?

Mr. SLOCUM. Yes, sir, that is definitely true. I also think that the increased prices that we have seen have not necessarily been an incentive for consumers to use less, and I think that is because economists call gasoline consumption inelastic. It is not a luxury consumption but, rather, a necessary consumption. So, for example, in the last year, you have seen gasoline prices go up almost 80 cents, but there has not been a corresponding significant impact on consumption, and most economists say that, in order to see a real impact on consumption, you would have to see prices rise to probably $5 or $6 a gallon, which I think would then be punitive, not only for consumers but to the entire economy.

Mr. ISSA. I appreciate your saying that, because of course, we are just about at that point in Europe.

So, I think I will buy off that perhaps we do not want to adopt that portion of the European model, although we certainly have prices that are closer to Europe than they were a decade ago. But you know, concentrating on the windfall profits tax, I watched the windfall profits tax implemented in the past, and of course, it was a tax.

It may have affected where the money went, but it did not put the money into the long-term investment that we had hoped for.

If I understood your testimony, I believe what I heard—and I am very positively affected by it—that to the extent that a windfall is declared by the Federal Government relative to earnings by petroleum companies, your goal would be to ensure that went into investment. So, if I understand correctly, what you are calling for here today is perhaps not identical to the previous windfall profit tax but, rather, a windfall investment funding or requirement. Would that be fair as a very overview brief statement?

Mr. SLOCUM. Yes, sir, that would be correct, and it would not necessarily be a mandate on the oil industry to make that investment.

You know, if they chose to do that, that would be fantastic, but it would be also for the government to take the proceeds from that new revenue source and make the necessary investments in our energy infrastructure that are required right now.

Mr. ISSA. I appreciate that, and you know, I was an observer of that, and Mr. Greco, I am sure, will have an opinion on it, too, but you know, one of my deep concerns is that we manage to get the money, but government is funny about revenue.

We do put a lot of dollars, Federal dollars, into energy resources, promoting infrastructure, and so on, but usually what happens, if we get a new revenue source, we suddenly take money and put it somewhere else.

So, the net effect often is there is no additional investment.

Mr. Greco, I have given you some food for thought with my first questions, but I want to get back to the hurricane, because in the long run, we have a lot of things we can do; in the short run, we have a matter of days before the first hurricane is going to be spotted or tropical storm is going to be spotted in the Atlantic.

Besides the action taken for the current hurricane season, what measures are government and industry taking to address preparedness for the long term?

Mr. GRECO. First off, some of the short-term actions that we are taking now do have long-term implications. When you are talking about redundant communications, cell towers, prepositioning supplies, you are developing infrastructure needs and setting up systems that are good for business continuity and will be helpful in the long term, as well, for future hurricane seasons, as well as other potential disruptions.

Longer term, our refineries and our facilities are looking at their systems to see what they can do to harden them.

For example, from a refining standpoint, you are seeing people looking at installing additional co-generation, which basically allows you to generate electricity very cleanly, very efficiently, onsite. That would certainly help in the instance of future power shutdowns.

Refiners are considering whether they need to raise the level of some of their equipment, because there are tidal surges.

Again, those are longer-term issues that they are looking at.

Similarly, API, as I mentioned—we got two of our interim standards out very quickly, in record time. We are undergoing a comprehensive review of all of our standards to see if there gaps that need to be addressed longer-term to make sure that we fully anticipate future events and are prepared for those.

Then, from a policy standpoint, you have a number of activities that the Congress and the agencies can take a look at.

Clearly, diversifying our sources of supply is something we should look at. Our resources are concentrated in the Gulf of Mexico, because that is where we are allowed to build, and we are not allowed to build elsewhere. The ability to access oil reserves off our Outer Continental Shelf elsewhere, in the mountain west, in Alaska, would certainly diversify sources of supply and allow us to cushion any future disruptions that are concentrated in the Gulf, as well as L&G terminal siting, where should those be, should those be more diversified, as well as looking at research and development into alternatives, promoting conservation, streamlining permitting processes.

Those are all longer-term activities that would certainly help us diversify our supply and make the economy more resilient to these disruptions.

Mr. ISSA. Excellent. I appreciate that.

This is probably a longer question than the answer, because I think we have already touched on it, but I want to make sure it gets in the record.

If a hurricane or hurricanes were to hit the Gulf of Mexico this year, would the recovery time be greater or less than last year for a given level of hurricane?

Mr. GRECO. That would be a very difficult question to answer.

I think one of the challenges of last year was having——

Mr. ISSA. Generally, you know, if the word is good and we are better off, it is not that hard to answer. So, would it be fair to say that it is difficult because we may not be better off this year, we may not actually be able to deal with it better than we could last year?

Mr. GRECO. I think we have taken a number of steps to improve our responsiveness, to harden our facilities and to make them more resistant to future hurricanes. If you have two category five hurricanes spaced a couple of weeks apart, with the level of impact they had on our off-shore and on-shore facilities, it is difficult to predict what the impact would be of those. It is very hard for me to say that, but I do think we are better prepared this year than last year based on the lessons learned and the actions we have taken.

Mr. ISSA. Following up on that, as we enter the 2006 hurricane season, the Federal Government's coordination efforts, are we better prepared today, are we going to respond better, from your observations and your coordination and your training, than we were last year?

Mr. GRECO. I think we are already at a very high level of coordination and cooperation with the industry, as I mentioned in my comments.

For example, we had very good success working closely with the EPA, DOT, and Coast Guard on various temporary waivers that we needed to minimize the disruption and allow us to get our facilities back up and running as quickly as possible. The system worked, and we are justifiably proud of the government's response, as well as our employees' response, in those situations.

So, what we are looking at is trying to improve the education, and thereby better understand how the government is coordinating.

Much of this is done at the local level. Clearly, we need to continue to focus on what the people on the ground are doing to respond, and how can we work closely and educate them about the importance of getting pipelines up and running; about restoring electrical generation to pipelines and refineries to ensure supply in the areas outside the Gulf of Mexico.

Clearly, that is the type of issue that we have been focusing on.

Mr. ISSA. I appreciate that.

My last question: I introduced a piece of legislation calling for a study leading to a strategic refined fuels reserve, but in a sense, there is a strategic reserve of fuel, which is every other refinery in the world.

As Californians, both the ranking member and myself, we deal with some 28 different blends just in California, depending on the time of the year, as does the rest of the country.

In your opinion, would it be a worthwhile goal to have executive authority in the case of an event like last year for a predetermined fuel mixture or mixtures available around the world to be approved—in other words, the logical fuels that we could import in order to not have shortages. That would not meet every possible blend, but a blanket waiver for certain known mixtures available at certain known refineries so that we could, by one Executive order, whether it was in California or in the Gulf or in New York,

have large amounts of refined fuels be able to be purchased and brought in fairly seamlessly.

Today, we do not have that authority. There was controversy about the President even allowing some purchases and what they were.

Would that be helpful, both from an industry standpoint, to relieve temporary shortages, and just as important, from a standpoint of consumer benefit?

As you said, we had large spikes, unexplainable in the case of crude but explainable in the case of refined distillates and gasoline.

Mr. GRECO. I think your first point was a valid one.

The fact that, despite a 30-percent drop in gasoline production in the United States, suddenly and unexpectedly, the market adjusted, we were able to import fuel, and we were able to get through it.

The price did come back down quickly, and there were only spot shortages.

The market worked, and from our perspective, given the severity of those two hurricanes, I think that supports the fact that the market can work when it is allowed to and when we work closely with government to take advantage of market mechanisms.

I think when you're talking about product reserve, you get into a whole host of issues that are completely separate from oil reserves, because products do vary by season, they do vary in different parts of the country. Refineries are optimized to make particular fuels.

So, when you talk about making a particular default fuel, for example, that may not work if your refinery is optimized to make something else. It may not be quite as quick as you are suggesting that it could be done, as well as storage issues you have with fuels.

Where are the tanks going to be to store these fuels? Who is going to own the fuels? Who is going to make the decision when you release those fuels, and what would those impacts be on the market?

So, I think, when you look at the performance of last year, the market worked very well and we should continue to utilize the power of the market.

Mr. ISSA. I appreciate your belief that last year was an example of industry's performance, under the circumstances, at its best.

Mr. Slocum, how would you view this?

Mr. SLOCUM. I think it makes a lot of sense to try to have better lines of communication and authority to work with other countries and outside storage systems to try to import during times of emergency. I do not necessarily agree with trying to streamline domestic so-called boutique fuel blends.

Mr. ISSA. That was not my suggestion. I am simply saying, in case of an emergency, for example, having at least one single fuel that could potentially be shipped to substantially all or major sections of the country, for only the emergency period, you know, recognizing that if, hypothetically, that were a California-approved blend, one of the blends, it might not be perfectly ideal, but it would be substantially up to or above Federal standards.

You know, one of the problems we as Californians—I want to make sure I explain it—is that when we run out of fuel—when

Long Beach's refinery had a fire, there was nobody else that could make the fuel, I think, except Norway.

So, we were in an odd situation of the market could not work because when one place was off-line, nobody could react in any reasonable time to prevent a shortage.

Looking at last year and making the assumption that the world has enough gasoline, particularly gasoline refining capacity, and they can refine at least one blend acceptable in the United States, and yet they may not be able to send it to this State or that State or this district—and I'm not talking about, at all, narrowing any jurisdiction or any fuel that is determined.

I think dismissing this option is not appropriate to emergency response. During a bona fide emergency, do we want our hospitals' generators running, do we want emergency vehicles to be able to operate, or do we want to say not if it means that there is a slightly different blend of gasoline inside the tank that might have, you know, two noxes different—and I am not trying to belittle those two noxes—but for that short period of time, hypothetically, the first 30 days after there has been a severe outage and not beyond.

Mr. SLOCUM. Yes, sir, Mr. Chairman, I think it makes a lot of sense to give the President that authority or to investigate this further, to try to better coordinate, you know, transfers of—and you know, negotiating with these other countries in order to have them help us respond to any emergencies that we have here, and any supply disruptions.

I think that would be extremely beneficial.

Mr. ISSA. Thank you, and I appreciate the gentlelady's patience on that question.

Thank you.

Ms. WATSON. This is a question to Mr. Greco.

Last August, during Katrina, we saw prices go up as high as $5 in some places. We saw those who had cars and could get them out of the flooded areas lined up for miles to get the gasoline.

I hear the explanation about how we can get the resources we need, but what were your feelings about the oil industry making the largest profits ever? I guess you do the accounting per quarter, and I understand billions of dollars were made, I would say at the expense of the consumers during a time of crisis.

Now, how is that justified?

You know, you made profits for your stockholders. I heard discussions on TV and radio and saw all about the bottom line, but at a time when our country is attacked by nature, people died and so on, why would you look at the bottom line?

Can you explain that to me?

Mr. GRECO. During the hurricane, at its peak, nearly one-third of our gasoline production was suddenly off-line. We lost that much of our supply.

Nearly one-third of our oil production was suddenly off-line.

Twenty percent of our natural gas production was off-line.

That is a tremendous drop in a supply in any market, particularly one as tightly balanced as the U.S. market is.

Not surprisingly, given that huge drop in supply, there was upward pressure on prices. Just as quickly as imports came in from Europe, from the gasoline side, we did see prices drop back down.

Just recently, at the request of Congress, the FTC looked at this issue and tried to assess what the impacts were of that price pattern. Was there anything else going on? According to the FTC, "the post-hurricane gasoline price increases at the national and regional levels were approximately what would be predicted by the standard supply and demand model of a market performing competitively. The conduct of firms in response to the supply shocks from the hurricanes was consistent with competition."

Ms. WATSON. Let me just say this. I understand very clearly what you said, but you registered the largest profit margin ever, billions of dollars.

So, it does not really compute to say you had to go and get petrol from other sources, but you still made so much money off people who had to escape, who probably did not have money, and you ripped them off for the bottom line.

So, I just see a matter of the lack of social responsibility. I recognize all the other problems, but to register that kind of profit and to say it is competition and we have stockholders does not compute with the kind of emergency we were under.

Mr. GRECO. May I respond to that, please?

Ms. WATSON. Let me go with Mr. Slocum. I think I heard your response.

Mr. GRECO. Well, no, I think the response—the other piece, which I meant to say, would like to say, is that this was more than just an industry impact. The men and women of our employees were spread to the four winds as a result of this disruption.

We had immediate concerns that we needed to find our employees, get them back to a position where they could work in a safe condition, while looking out for their families, where they lost loved ones, as well, and family members in this disaster. So, this was a body blow to our industry that our companies took very personally, and was a significant hit on them, as well.

Regarding the profits, when you look at the size of our industry, the profits are not out of line with the size of our companies.

Ms. WATSON. There is no way to socially justify that, at a time that this Nation was paralyzed with this disaster—we could not even get people in there for 3 days to remove the folks that were there, but when people were able to get in their automobiles, you just jacked those prices up as high as you could, and I do not think you needed $400 billion just to take care of your people.

Let me go on to Mr. Slocum.

How do we plan and prepare for the future so that there is social responsibility?

The consumers were suffering greatly. We are still suffering.

I saw where a man had to pawn his grandmother's jewels in order to fill up his truck, and so, how do we need to plan?

I am sorry. This might have been discussed before I got here, Mr. Chairman.

Mr. ISSA. Not by you.

Ms. WATSON. Of course.

You know, I am from California. Everyone has not only one car but two or three, you know.

Their cars are a status symbol.

Mr. SLOCUM. Not just a status symbol.

I mean you have to have a car to——

Ms. WATSON. You have to have a car.

Mr. SLOCUM [continuing]. Sometimes to work.

Ms. WATSON. We are very sensitive to these issues. How do we prepare so we do not rip off consumers, we take into consideration that we do have to get alternative sources and we do have to go maybe off-shore, other countries and all, to get the resources we need?

How can we prepare so we do not have to have the same kind of tragedy, and you know, the whole world was watching. The greatest country in the world, and we could not even meet the needs for our people for 3 days, and then when we did get gasoline, the prices were so high, they could not even afford it.

Now, tell me what you would do in order to protect the consumers.

Mr. SLOCUM. Well, first, I think we need to aggressively start investing in alternatives——

Ms. WATSON. Absolutely.

Mr. SLOCUM [continuing]. To our high dependence on oil to fuel our economy, and it is going to take billions and billions of dollars to do that. Like I said earlier, the Federal Government is currently in this fiscal year alone, set to run approximately a half-a-trillion-dollar budget deficit, and we have almost $9 trillion of outstanding debt. Our Federal Government spending is unsustainable, and we simply do not even have enough money for our basic government services, let alone for investments in energy I take a look at the oil industry profits, which are huge not just in dollar terms but also in profit margin terms.

Ms. WATSON. Staggering.

Mr. SLOCUM. When you look at their return on their capital investment, which is what the oil companies emphasize when they are talking to Wall Street and to shareholders, they look at return on capital investment, and Exxon-Mobil, for example, a 46-percent rate of return on their oil production activities, a 59-percent profit margin on their U.S. oil refining.

Those are huge levels of profit, and I think that justifies some sort of new level of income taxation on the oil industry, dedicating the proceeds to financing the investments that are necessary in alternative fuels and alternative fuel infrastructure, in energy efficiency, so we become more efficient at using energy, so we do not use as much; in mass transit, which is desperately needed in places like Los Angeles and elsewhere.

I am lucky that I can take the subway very easily to my office here on Capitol Hill. Not every American can do that in every American city.

Also, I think providing some financial protections to moderate and low-income working families from the impact of these higher prices is also required. As you emphasized, ma'am, higher prices are having a huge negative impact on basic affordability issues for working families.

So, in a nutshell, I think that is what we would emphasize first.

I think, second, we need to look at some of the systemic market failures in U.S. energy markets, particularly in the refining and downstream sectors.

I think that we have allowed far too many mergers. For example, Exxon and Mobil used to be two global competing oil companies. Now they're the same company. Same with Chevron-Texaco and Conoco-Phillips.

Valero was allowed to acquire three different refining competitors.

All of that has resulted in a high level of concentration that has really reduced competition. I think that is a huge reason why we need a strategic refining reserve. As Rex Tillison told the Wall Street Journal on May 1st of this year, they do not have any plans whatsoever to build any new refineries, not because of our environmental laws, but because it is not in the financial interest of the company and its shareholders.

They do not want to create huge surpluses of refining capacity, because it is going to have a downward impact on prices to consumers, which would have a downward impact on profits to the company.

So, as long as it is not in their financial interest to make the necessary investments, we are going to have to take the lead.

Ms. WATSON. Well, let me just say this, and I will yield back to you, Mr. Chairman.

I think this country will have to respond to what President Bush said.

We are addicted to gasoline, and in responding, I foresee that it is going to take us decades. We cannot convert our systems over.

In the meanwhile, I would like to know what the American Petroleum Institute would have in mind.

Are we going to see the same situation? I am sure we are going to have a hurricane this year, probably at the level of what it was last year because of climatic conditions, and I see those climatic conditions only getting worse rather than any better, because we are not attending to them.

So, is the institute looking at ways so that the burden will not be on the consumer totally in another disastrous situation? I do not think that levee that we just rebuilt at the 17th Street down in the lower ninth ward of New Orleans is going to hold up under a level four hurricane, three last time, four this time, and so, we are going to have the same kind of crisis, I feel, that we had. It is just that there are going to be fewer people to evacuate, because they never have gone back.

So, I am looking at our globe and its atmosphere and the conditions—I am looking at that for the very near future as repeating itself in terms of disaster.

What would you propose, and what do you see? I mean how can you bring some relief to consumers for people who are suffering greatly?

Mr. GRECO. Well, first off, thank you for the question, a number of things I'd like to address to that one.

First, our industry is investing its profits back into finding new sources of energy, alternative sources of energy.

For the past decade, our investments in new energy sources have exceeded our earnings. Also, contrary to what Mr. Slocum might have you believe, we have been investing in our refining capacity.

We have added the equivalent of one new refinery every year for the past 10 years.

There are announced plans to add another six new refinery—equivalent, not new facilities, because we cannot get them sited either, but we have expanded the capacity to the equivalent of six new ones over the next 5 years. Those are announced——

Ms. WATSON. Will you yield a minute? Can you give us that in writing?

Mr. GRECO. Sure.

Ms. WATSON. Will you let us know where your new refineries are going to be located, those you have not started yet?

Mr. GRECO. I am sorry. I was not clear. It is not new refineries. It is expanded capacity.

Ms. WATSON. OK. Well, your expanded capacity——

Mr. GRECO. Yes.

Ms. WATSON. Would you let us know the geographical locations where they are?

Mr. GRECO. Yes, we can do that.

Ms. WATSON. And those that you have expanded up to this date.

Mr. GRECO. I am not sure if I can give you all of the information about past announcements, because I can show you the data that shows that refining capacity—government data that shows the amount of expansion.

Ms. WATSON. Mr. Greco, you are making a statement.

You said that Mr. Slocum was not correct.

Mr. GRECO. He was not.

Ms. WATSON. You are correcting him. So, I am asking, the corrected information that you are giving the committee now—you are sworn in—that you give it to us in writing and state the geographical areas that you are extending and expanding.

Mr. GRECO. I will do the best I can.

Ms. WATSON. Please. Thank you.

Mr. ISSA. Actually, the committee has some of it, but we would appreciate it included in this record. Both of us enjoy the fruits of the expansions in Long Beach and other areas, but I think it is important, because both sides of the aisle here in Congress often talk about the fact that we have had no new refineries built in "X" time. That certainly has forced a concentration of refineries. A matter of this hearing is our excess reliance on relatively few locations such that, if a hurricane hits, we do not have 300 new refineries spread around the United States, we have 46 percent of them coming from the Gulf.

Mr. GRECO. Yeah. As we mentioned earlier, you are correct, the concentration of the oil and gas resources are in the Gulf, refining and upstream, primarily because that is where they have been allowed and invited and welcomed to be. We are looking and supportive of efforts to diversify sources, both supply and refining. Much of that will be done, however, on existing refineries, whether in California or in other States, but I would be happy to give you some information about announced refinery expansion plans and past expansions, as well.

Mr. ISSA. We will just take it for the record. Appreciate that.

OK. I will just sum up very quickly. I thank our witnesses for your testimony today, particularly your candid questions and answers.

I think I would like to close by finding some things that I believe both the first and second panel exposed.

One is that we need to diversify our fuel sources, because diversifying our fuel sources helps diversify our fuel supply locations.

The gentlelady from California and the gentleman from California certainly agree that ethanol and bio-diesel, because of their very nature, will be produced much closer to locations in which they are consumed. That is a goal of not only this committee but the Energy and Commerce Committee.

Last, I would like to share with the gentlelady my agreement on an observation. Certainly, my background in business makes me an appreciator of the elasticity of demand, of supply and demand, and of opportunistic markets. It is interesting, however, for this committee to note that, during the crisis after Hurricanes Katrina and Rita, a McDonald's had dozens, hundreds, perhaps, but certainly dozens of their McDonald's facilities off-line and unable to supply hamburgers, french fries, shakes, and the like, but it did not result in an increased price in California for hamburgers, shakes, or french fries. So, it is relatively unique to this particular industry that, although they were consuming MREs in the Gulf, they were consuming dramatically less petro-chemicals at the time, we in California, from the refineries, which had imported oil into Long Beach and refined them in Long Beach, found our prices spiking just as much.

It is the difference between a commodity product, perhaps, and my McDonald's example, but I think that the gentlelady and I both are sensitive, for good reason, to the fact that the consumer paid throughout the Nation for a shortage which may, in many cases, have had nothing to do with the cost and the normal elasticities, since these were products that could not easily be shipped from Long Beach to some other location, and with that comment and agreement with the gentlelady, we stand adjourned.

[Whereupon, at 3:38 p.m., the subcommittee was adjourned.]

○