



Written Statement of the
National Petrochemical & Refiners Association

delivered by
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President, NPRA

before the
House Committee on Energy and Commerce

concerning
Hurricane Katrina's Effect on Gasoline Supply and Prices

September 7, 2005
Washington, DC



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NPRA, The National Petrochemical & Refiners Association, appears today to discuss the impact of the wide-spread devastation caused by Hurricane Katrina on transportation fuels markets, and to discuss other, on-going factors impacting these markets. In attempting to respond to the questions most asked about Katrina's impact on the industry and energy supply, NPRA offers:

- A brief review of the total energy supplied by the Gulf coast and its importance to the overall U.S. energy supply.
- A discussion of the extent of the damage caused by Hurricane Katrina to and the current condition of crude oil, natural gas and refinery and petrochemical operations, along with a brief outline of refined product pipeline outages.
- Background on industry efforts to improve the basic needs of those impacted by the calamity.
- An outline of federal government actions such as SPR release and emergency fuel quality waivers.
- An assessment of the impact on fuel supply and prospects for a return to normalcy.
- Support for continuation of a free market approach.

In addition, NPRA outlines the pre-existing conditions of the transportation fuels market and recommends policy changes to increase the nation's supply of oil, oil products, and natural gas. NPRA reaffirms its commitment to encourage the production of an abundant supply of petroleum-based products for U.S. consumers, while maintaining appropriate environmental requirements. Discussing both existing market conditions and forces, along with current operational realities, NPRA stressed that:

- It is very important to understand gasoline market fundamentals, including high crude prices and strong consumer demand.
- U.S. policy should encourage additional domestic refining capacity.
- The U.S. refining industry is diverse and competitive and that the industry is working hard to keep pace with growing demand.
- Refiners face a welter of regulatory requirements that impact both facilities and products.

NPRA's testimony concludes by suggesting adoption of specific recommendations that, if implemented, would add refining capacity and increase future domestic product supply. The statement urges that increasing the nation's supply of oil, oil products and natural gas become a number one public priority. Congress must remove barriers to increased supplies, while at the same time keeping an eye on upcoming regulatory initiatives that, if not properly conducted, will have a significant negative impact on supply.

Mr. Chairman and members of the Committee, thank you for the opportunity to appear today to discuss the impact of the wide-spread devastation caused by Hurricane Katrina on transportation fuels markets. While I will focus on that urgent matter, I will also discuss the many other factors impacting current transportation fuels markets. My name is Bob Slaughter and I am President of NPRA, the National Petrochemical & Refiners Association. NPRA is a national trade association with 450 members, including those who own or operate virtually all U.S. refining capacity, and most U.S. petrochemical manufacturers.

Part I. Responding to Hurricane Katrina

In the aftermath of Hurricane Katrina our nation confronts death, injuries and devastation of staggering proportions. The images of the tragedy displayed in the last several days on television and other media underscore the human toll and seeming hopelessness in ways more eloquent and compelling than could ever be captured in testimony. We share both the sense of dismay and increased humility felt by all Americans before this latest reminder of nature's power to devastate and confound the best efforts of human beings. NPRA offers our sympathy and prayers to those who have suffered the loss of loved ones among family members, or their neighbors

and colleagues, as well as to those who have lost much or all of their personal assets and livelihood in this worst U.S. natural disaster.

Today's hearing has been called to inquire into the impact of Hurricane Katrina on the nation's energy supply. It is appropriate that Congress turn immediately to such questions because of the huge impact of that storm on the Gulf Coast, the energy heartland of the United States. This is a time when national attention is and should be focused on human needs. Many industry employees and their families have been victims as you will hear. Nevertheless, NPRA appreciates the committee's immediate attention to the issue of energy supply, which was the subject of considerable debate and attention even before the hurricane disaster occurred. We also appreciate the opportunity to respond to the committee's questions in person on this matter of critical national importance. Because our expertise lies in the area of refining and petrochemicals, we will focus on those areas, but will try to provide other available information insofar as is possible.

Thus, on behalf of our refining and petrochemical industry members we have attempted to respond to the questions most asked about Hurricane Katrina's impact on the industry and energy supply, as follows:

1. How much of the nation's oil and gas supplies come from this region?

According to the U.S. Energy Information Administration (EIA), the Gulf of Mexico produces 1.582 million barrels per day (mmb/d) of federal offshore crude production, which is **28.5% of the U.S. total federal offshore crude production** (5.488 million barrels per day).

Again according to EIA, the region contains 8.068 million barrels per day of refining capacity, **47.4% of the nation's total refining capacity** (17 million barrels per day).

The Gulf Coast region receives 6.490 mmb/d of crude oil imports, **60.4% of the nation's total crude oil imports** (10.753 mmb/d). (23.5% of the nation's total comes into ports in Louisiana, Mississippi and Alabama, and 8.5% of the nation's total crude imports come into the LOOP.)

The Gulf Coast region produces 10.4 billion cubic feet (bcf/d) of natural gas per day, **19.2% of the nation's total offshore natural gas production** (54.1 bcf/d).

2. How extensive was the damage?

Crude Oil, Natural Gas Production

According to the U.S. Minerals Management Service (MMS), **as of September 2, 88.53% (1.328 mmb/d) of Gulf crude oil production was shut-in, and 72.48% (7.248 bcf/d) of Gulf natural gas production was shut-in.** This amounts to 25% of total federal offshore crude production and 14% of the nation's offshore natural gas production.

Crude Oil Import Facilities

The storm resulted in temporary closure of LOOP, the Louisiana Offshore Oil Port. More than 10% (900,000 b/d) of the nation's crude oil imports enter through LOOP. Roughly 500,000 b/d of crude produced offshore is also unloaded at LOOP, which ceased operations on Sunday, August 28 as the storm approached.

Refineries

The following refineries were directly affected by Hurricane Katrina:

Belle Chasse, Louisiana (ConocoPhillips) 247,000 b/d; shut

Chalmette, Louisiana (ExxonMobil/PDVSA) 190,000 b/d; shut

Convent, Louisiana (Motiva) 235,000 b/d; shut

Garyville, Louisiana (Marathon) 245,000 b/d; shut

Meraux, Louisiana (Murphy) 125,000 b/d; shut

Norco, Louisiana (Motiva) 227,000 b/d; shut

Pascagoula, Mississippi (Chevron) 325,000 b/d; shut

Port Allen, Louisiana (Placid) 48,500 b/d; shut

St. Charles, Louisiana (Valero) 260,000 b/d; shut

Vicksburg, Mississippi (Ergon) 23000; shut

Together, these facilities constitute about 2 mm/b/d, 12% of the nation's total refining capacity (17 mmb/d).

In addition, the following refineries were forced to reduce operations because of the impact of Hurricane Kristina:

Baton Rouge, Louisiana (Exxon Mobil) 488,000 b/d; reduced runs

Krotz Springs, Louisiana (Valero) 85,000 b/d; reduced runs

Memphis, Tennessee (Valero) 180,000; reduced runs

Port Arthur, Texas (Total) 285,000 b/d; reduced runs

Tuscaloosa, Alabama (Hunt Refining Co.), 35,000 b/d; reduced runs

In addition, several Midwestern refineries were affected by shutdown of the Capline Pipeline, which supplies crude oil from the Gulf region to refineries in the Midwest (16% of the nation's refining capacity is in the Midwest). For example, Marathon's refineries at Catlettsburg, West Virginia (222,000) and Robinson, Illinois (192,000) were affected by Capline's closure, as were other Midwestern facilities.

In total, we believe that **at least 20% of the nation's refining capacity** (3.4 mmb/d) ceased operations or reduced runs at some time due to the direct impact of Hurricane Katrina and the loss of crude supplies from pipelines affected by the storm. This is probably a conservative estimate.

Recent reports indicate that many of these refineries are either up and running or anticipate start-up as early as this week. But, unfortunately, there are some refineries representing a significant amount of capacity that will remain shut for an undetermined period.

The Gulf refineries were first impacted by the need to protect the personal and family safety of employees, as well as the high likelihood of wind and flood damage as a result of the hurricane. After the hurricane passed, many

of these facilities remained totally off-line as damages were assessed. In some instances companies could not physically enter the facilities to conduct an assessment for several days, and had to first depend on flyovers to study the plant. Damages included flooding, wind damage, and lack of electricity.

Pipelines

In addition, the widespread damage caused by the storm disrupted the electricity supply, which affected all industry operations. From a refiner's point of view, among the most serious was closure of three pipelines:

The Colonial Pipeline, 5,500 miles of pipeline originating in Houston and ending in New York Harbor, carries a daily average of 100 million gallons of gasoline, diesel and other petroleum products from refineries in the Gulf to customers in the South and Eastern United States.

The Plantation Pipe Line, 3,100 miles of pipeline, performs a similar function along a slightly different route, delivering a total of 620,000 barrels (26 million gallons) of refined petroleum products per day to Birmingham, Alabama; Atlanta, Georgia; Charlotte, North Carolina; and Washington, D.C., among other cities.

The Capline Pipeline (previously mentioned), which carries 1.1 million b/d of crude oil to refineries in the Midwest where it is refined to produce gasoline, diesel and other petroleum products for distribution primarily in the Midwest.

All three of these pipelines were totally or partially out of service due to disruption of electricity supplies as a result of Hurricane Katrina. As a result, **the major supply lines of refined products to the Southern and Eastern states were unavailable for shipment in whole or in part, during the initial period after the storm. Midwestern gasoline and diesel production was affected by lack of supply from the Capline Pipeline. This led to reduced supplies of gasoline, diesel, and other products in parts of the country often far removed from the Gulf area.**

Petrochemical Facilities

The Gulf region is home to many of America's petrochemical plants, which manufacture plastics and other products made from oil and natural gas feedstocks, and which rely on these energy sources for fuel and electricity for power. The impact of Hurricane Katrina on these facilities is not

currently known but is potentially quite serious, both in terms of facility damage due to water or wind damage and temporary closure or reduced operations due to feedstock shortages, lack of fuel or electricity and transportation problems.

Petrochemical products serve as the building blocks for many ultimate products such as computers, medicines and other medical products, plastic packaging for food, and also automobile components, to name just a few. Disruption of petrochemical production due to the storm, if it continues, could affect the economy considerably due to the economic importance of petrochemical-based products.

Other Facilities

In addition to the major impacts outlined above, company pipelines and shore facilities and other operations were impacted by the hurricane, but information on these matters is less readily available to us. Company and government statements indicate that many of these facilities were not operating due to lack of electricity or because other related facilities (e.g. refineries) were down. Some natural gas processing plants were affected but NPRA does not have more information on this sector of the industry.

3. What is the current state of repairs?

The many different sectors of the energy industry, working around the clock together with core service providers and with important help from local, state and federal government agencies, have made considerable progress in restoring some of the operations affected by the storm.

The magnitude of the impact outlined above clearly dictates caution in any assessment of when the energy production, refining, distribution and related facilities will be back in service and industry conditions will return to normal. Clearly, our national energy infrastructure has suffered a setback from which it will take some time to emerge completely.

Crude Oil, Natural Gas

According to the MMS as of Saturday, September 3, 78.98% of Gulf of Mexico crude oil offshore production remained shut-in, an improvement of 10% over Friday. Shut-in Gulf natural gas production stood at 57.80% of total Gulf gas marketed production, an improvement of 21% over Friday's figure. The number of manned offshore platforms that are evacuated declined by 25% over the same period. Thus, important but limited progress

has been made both in restoring the flow of crude and natural gas necessary for refiners to manufacture gasoline, diesel, jet fuel and other petroleum products and to meet the needs of petrochemical manufacturers. In addition, it is reported that LOOP is operating at 75% of capacity.

These figures still leave significant amounts of offshore Gulf crude oil and natural gas shut-in, and oil and gas volumes not produced in the past several days are large. During the period 8/26-9/3 9.8 million barrels were shut-in, totaling 1.8% of yearly crude oil production in the Gulf. During the same period 53.2 billion cubic feet of natural gas were shut-in, roughly 1.45% of annual gas marketed production from offshore.

There are indications of progress as well regarding refineries. Marathon announced this weekend that, barring unforeseen problems, all seven of its refineries would be operating at capacity on Monday. This includes the Midwestern refineries impacted by the Capline Pipeline closure as well as the Garyville, Louisiana refinery impacted directly by the hurricane. Valero has announced that its St Charles refinery will probably return to operation in the next two weeks. Shell has stated that the Convent refinery may be restarted Sunday and the Norco refinery midweek. Those refineries will be

returned to full production gradually and safely as soon as start-ups take place. Assessments of physical damage to the Chalmette and Meraux refineries last week helped ascertain the extent of damage was limited; no start-up date has been set.

The Colonial Pipe Line expected to return to 86% capacity service by the end of the Labor Day weekend. Plantation Pipe Line has returned to 100% operation as has the Capline crude oil pipeline. This means that major pipeline links to the Midwest, South and East have been gradually restored. Serious problems remain, however, due to the significant loss of product and crude volumes which would have been shipped on these lines last week.

In addition, it remains unclear when many, if not most, of the refineries impacted directly by Hurricane Katrina in the Gulf can return to service. Problems with wind and water damage, electricity supply and other infrastructure remain to be addressed despite the best efforts of facility owners and operators. Thus, although some of the affected refineries may restart and return to capacity or near-capacity levels this week, there are indications that several facilities may be out of service for a longer period.

The industry is committed to operation of these facilities as soon as possible, but employee safety and overall safe start-up and operation concerns are paramount. Significant flooding and damage still affects some facilities. However, some refiners with operating facilities have indicated that they will be able to ramp-up production from currently reduced levels at refineries near the affected areas which should have a positive impact on product supplies.

4. What else is industry doing to improve the situation?

As indicated above, the industry has moved with considerable speed to restart the nation's energy infrastructure so severely damaged by Hurricane Katrina. Even more important than assessing and repairing physical damage however, was the need to locate and assist employees, many of whom experienced significant personal losses of family or friends in the tragedy as well as loss of or severe damage to their homes. (All industry companies throughout this region have been deeply involved in locating and providing for the needs of their employees at the same time they were attempting to assess and respond to facility damages and restore energy production).

Many companies are offering varying types of assistance to personnel and their families who were impacted by the hurricane. These include interest free loans; temporary living supplements for housing and food; pay continuation while facilities are closed; transportation assistance; paid time off; medical and prescription drug assistance; temporary housing, including trailers, tents, and other available housing.

The oil, gas and petrochemical industries have already contributed millions of dollars to the American Red Cross and other relief agencies involved in assisting all residents of the affected communities. They are also matching employee contributions. Companies are also supplying in-kind assistance, often including fuel, for relief efforts as well. The industry will doubtless maintain its deep commitment to help end the suffering in the affected communities and to begin planning for the future.

5. What has the federal government done to address these emergency conditions?

Federal authorities have taken several decisive actions to help relieve the many energy-related problems left in the wake of Hurricane Katrina.

SPR Release

The Administration has released 9 million barrels of crude oil from the Strategic Petroleum Reserve (SPR) to assist refiners who are short crude supplies as a result of hurricane damage. The recipients will use this crude to manufacture more gasoline, diesel, jet fuel and home heating oil to be supplied to consumers across the nation. This is a dynamic process, and additional volumes may be needed as more refineries restart.

The current situation is precisely the type of event meant to trigger SPR release. It demonstrates the importance of careful SPR management.

Waivers to Increase Fuel Flexibility

EPA has provided temporary fuel waivers that will make it easier to provide fuels to affected areas. This action pertains to both gasoline and diesel specifications, and will help alleviate some of the supply problems in these areas by increasing the available supply of both domestic production and imports. Affected states participated in the EPA's decision process on this action.

Jones Act Waiver

DOT has temporarily lifted Jones Act requirements to allow non-U.S. flag vessels to transport much needed refined products from one U.S port to another.

IEA (International Energy Agency) Exchange

The Secretary of Energy has announced that the IEA will make available 60 million barrels of petroleum. This will provide relief in the form of refined products (gasoline, diesel, jet fuel, home heating oil) which are much needed due to disrupted supplies from several refineries. These products should begin to reach the U.S in one to two weeks. The agreement with the IEA also requires the U.S. to release an additional 30 million barrels of SPR crude.

Industry appreciates these actions, which were taken by the Administration with bipartisan support from the Congress. They will be very helpful in dealing with the serious supply problems that have resulted from Hurricane Katrina.

6. What is the impact on fuel supply? When will the situation return to normal?

As indicated above, Hurricane Katrina's direct hit on the energy heartland of America resulted in significant damage to offshore energy production in the Gulf, to facilities that are critically important to imported oil supplies, to refineries in the affected states and beyond, and to pipelines that serve as the major providers of refined products and crude to large parts of the East, South and Midwest.

All segments of the industry are working together in an intensive effort to repair as much of the damage as is possible at this time in order to increase the flow of crude oil to refineries and refined products to consumers throughout the country. Safety considerations and the immediate needs of the industry's workforce are of course taken into account at all times.

Industry and government are working together to provide available supplies of product to areas that are experiencing supply concerns. The fuel and Jones Act waivers mentioned above will be of immediate and near-term assistance. Increased product imports through the IEA should also help when they arrive. Refiners who have the ability to do so will attempt to increase

production to help meet the needs of the affected areas. The release of oil from the SPR will be helpful in supplying them with some of the crude needed to make these products.

Despite this hopeful news, our nation faces a disruption of the fuel supply system that should not be understated. The hurricane temporarily affected more than 90% of the Gulf's oil production and 80% of its gas production. It effectively removed 10% of the nation's gasoline supply by its impact on U.S. refining capacity located near the Gulf. It also impacted refineries hundreds of miles away that lost access to crude oil supplies. Although important progress has been made through the efforts of government and industry, and with some help from abroad, full recovery will take time. Hard work and cooperation throughout this difficult period will certainly help speed the return to normal conditions. The direct and indirect impact of the hurricane on energy demand, which cannot yet be determined, will also be a major factor during this period.

7. Should we continue to rely on free market forces during this period?

Absolutely. Continued reliance on market forces provides appropriate market signals to help balance supply and demand even during difficult times. President Reagan eliminated price controls on oil products immediately upon taking office in 1981. He was outspoken about the inefficiencies and added costs to consumers as a result of America's ten-year experiment with energy price controls.

The energy price and allocation controls of the 1970s resulted in supply shortages in the form of long gas lines. Studies have shown that, although intended to reduce costs, they actually resulted in increased costs and greater inconvenience for consumers. The benefits of market pricing became clear soon after their elimination. The U.S. Federal Trade Commission stated in an extensive study published this June that "Gasoline supply, demand and competition produced relatively low and stable annual average real U.S. gasoline prices from 1984 until 2004, despite substantial increases in U.S. gasoline consumption" and "...For most of the past 20 years, real annual average retail gasoline prices in the U.S., including taxes, have been lower than at any time since 1919." Price caps and other forms of price regulation are no more effective in the 21st century than they turned out to be in the

1970s. Interference in market forces always creates inefficiencies in the marketplace and extra costs for consumers.

The same holds true for “windfall profit taxes.” The U.S. had a “windfall profit tax” on crude oil from 1980 until 1988. That tax, which was actually an ad valorem tax imposed on crude oil, discouraged crude oil production in the United States and resulted in other market distortions. It was repealed in 1988.

Calls for re-imposition of a windfall profits tax on refiners reflect a misunderstanding of refining industry economics. In the ten-year period 1993-2002, average return on investment in the refining industry was only about 5.5%. This is less than half of the S&P industrials average return of 12.7% for the same period. Refining industry profits as a percentage of operating capital are not excessive. In dollars, they seem large due to the massive scale needed to compete in a large, capital-intensive industry. For example, a new medium scale refinery (100,000 to 200,000 b/d) would cost \$2 to \$3 billion. In short, company revenues can be in the billions, but so, too are the costs of operations.

The FTC June 2005 study cited above had the following comments on industry profits: “Profits play necessary and important roles in a well-functioning market economy. Recent oil company profits are high but have varied widely over time, over industry segments and among firms...Profits also compensate firms for taking risks, such as the risks in the oil industry that war or terrorism may destroy crude production assets or, that new environmental requirements may require substantial new refinery capital investments.”

Many other industries enjoy higher earnings than the oil industry. Among these are telecommunication services, software, semiconductors, banking, pharmaceuticals, coal and real estate, to name just a few. Imposition of a windfall profits tax on the industry would discourage investment at a time when significant capital commitments to all parts of the industry, including refining, will be needed.

Tight gasoline market conditions have often led to calls for industry investigations. More than two dozen federal and state investigations over the last several decades have found no evidence of wrongdoing or illegal activity on our industry’s part. For example, after a 9-month FTC

investigation into the causes of price spikes in local markets in the Midwest during the spring and summer of 2000, former FTC Chairman Robert Pitofsky stated, “There were many causes for the extraordinary price spikes in Midwest markets. Importantly, there is no evidence that the price increases were a result of conspiracy or any other antitrust violation. Indeed, most of the causes were beyond the immediate control of the oil companies.” Similar investigations before and since have reached the same conclusion.

There have been, however, reports of price gouging by unscrupulous individuals who seek to profit during this time of national emergency and crisis. Federal and state laws prohibit actions of this kind in emergency situations like the present. Each alleged situation should be thoroughly investigated by the appropriate state and federal authorities and prosecuted when the law has been broken.

Part II. A Short Discussion of Oil and Oil Product Supply Drivers

1. Introduction

This hearing was originally intended to inquire into the factors affecting the gasoline market. The natural disaster resulting from Hurricane Katrina required an understandable shift in emphasis to the human needs damages

resulting from that storm and only then to supply impacts. But it is important to remember that the effect of Hurricane Katrina is an overlay on a pre-existing condition. That was and is a situation characterized by high crude prices, strong demand for gasoline, diesel and other petroleum products, and a challenged energy infrastructure, especially in refining. In the interest of space and time, NPRA has shortened the following discussion of these conditions and policy recommendations for improving them. We urge members of the committee to consider the need for policy changes to increase the nation's supply of oil, oil products and natural gas as soon as possible.

As the nation moves forward in its resolve to address and overcome the effects of Katrina and the transportation fuels production and distribution systems regain much-needed pre-storm productivity levels, an underlying domestic fuel supply problem remains that requires immediate, bold, and perhaps politically unpopular actions. NPRA believes that policy changes must be put in place to enhance domestically-produced supplies of oil, oil products and natural gas. NPRA has consistently urged policy makers in Congress and the Administration to support environmentally sound,

economically justifiable policies that encourage the production of an abundant supply of petroleum and natural gas products for U.S. consumers.

NPRA supports requirements for the orderly production and use of cleaner-burning fuels to address health and environmental concerns, while at the same time maintaining the flow of adequate and affordable gasoline and diesel supplies to the consuming public. Since 1970, clean fuels and clean vehicles have accounted for about 70% of all U.S. emission reductions from all sources, according to EPA. Over the past 10 years, U.S. refiners have invested about \$47 billion in environmental improvements, much of that to make cleaner fuels. For example, according to EPA, the new Tier 2 low sulfur gasoline program, initiated in January 2004, will have the same effect as removing 164 million cars from the road when fully implemented.

Unfortunately, however, federal environmental policies have often neglected to consider fully the impact of environmental regulations on fuel supply.

Frankly, policy makers have often taken supply for granted, except in times of obvious market instability. This attitude must end. A healthy and growing U.S. economy requires a steady, secure, and predictable supply of petroleum products.

Unfortunately, there are no silver bullet solutions for balancing supply and demand. Indeed most of the problems in today's gasoline market—without factoring the market disruptions caused by Katrina—result from the high price of crude oil due to economic recovery abroad together with strong U.S. demand for gasoline and diesel due to the improving U.S. economy.

2. UNDERSTANDING GASOLINE MARKET FUNDAMENTALS: HIGH CRUDE PRICES; STRONG GASOLINE DEMAND GROWTH

It is important to recognize the overwhelming factor affecting gasoline prices: crude oil. In June of this year the U.S. Federal Trade Commission released a landmark study titled: “Gasoline Price Changes: The Dynamic of Supply, Demand and Competition.” To quote from the FTC’s findings: “Worldwide supply, demand, and competition for crude oil are the most important factors in the national average price of gasoline in the U.S.” and “The world price of crude oil is the most important factor in the price of gasoline. Over the last 20 years, changes in crude oil prices have explained 85 percent of the changes in the price of gasoline in the U.S.”

Crude prices have been steadily increasing since 2004, largely because of surprising levels of growth in oil demand in countries such as China and India, and in the United States as well. Actual demand growth for oil and oil products in these countries in 2004 exceeded the experts' predictions and has remained strong this year. As a result, world demand for crude is bumping up against the worldwide ability to produce crude.

Strong demand for crude has dissipated the cushion of excess available worldwide oil supply, just as strong U.S. demand for refined products has eliminated excess refining capacity in the United States. The good news is that producing countries will probably be able to add crude production capacity in the years to come. The bad news is that the United States has thus far shown only limited willingness to face up to its own energy supply problems.

As shown in Attachment I, gasoline costs closely track the cost of crude oil. Before hurricane Katrina, gasoline price increases lagged crude oil price increases on a gallon for gallon basis. This means that refiners did not pass through all of the increased costs in their raw material, crude oil. Crude oil accounts for 55-60% of the price of gasoline seen at the service station.

The cost of federal and state taxes adds another 19% to the cost of a finished gallon of gasoline. Therefore under current conditions, 74-79% of the total cost of a gallon of gasoline is pre-determined before the crude is delivered to the refiner for manufacture into gasoline. (See Attachment 2)

Another contributor to gasoline costs is tightness in our nation's gasoline markets. While U.S. refiners are producing huge volumes of products, strong demand has tightened supply. Gasoline demand currently averages approximately 9 million barrels per day. Domestic refineries produce about 90 percent of U.S. gasoline supply, while about 10 percent is imported. Thus, strong and increasing demand can only be met by either adding new domestic refinery capacity or by relying on more foreign gasoline imports. Unfortunately, the desire for more domestic gasoline production capacity is often thwarted by other public priorities.

3. U. S. POLICY SHOULD ENCOURAGE ADDITIONAL DOMESTIC REFINING CAPACITY.

Domestic refining capacity is a scarce asset. There are currently 148 U.S. refineries owned by 55 companies in 33 states, with total crude oil processing capacity at roughly 17 million barrels per day. In 1981, there

were 325 refineries in the U.S. with a capacity of 18.6 million barrels per day. Thus, while U.S. demand for gasoline has increased over 20% in the last twenty years, U.S. refining capacity has decreased by 10%. No new refinery has been built in the United States since 1976, and it will be difficult to change this situation. This is due to economic, public policy and political considerations, including siting costs, environmental requirements, a history of low refining industry profitability and, significantly, “not in my backyard” (NIMBY) public attitudes.

Nevertheless, existing refineries have been extensively updated to incorporate the technology needed to produce a large and predictable supply of clean fuels with significantly improved environmental performance.

Capacity additions have taken place at some facilities as well; several of these projects implemented over several years can actually increase product output as much as a new refinery. But this increase in capacity at existing sites has not kept pace with the growth in U.S. demand for products, meaning that the nation is increasing its reliance on imports of gasoline and other petroleum products each year.

Proposed capacity expansions can often become controversial and contentious at the state and local level, even when necessary to produce cleaner fuels pursuant to regulatory requirements. We hope that policymakers will recognize the importance of domestic refining capacity expansion to the successful implementation of the nation's environmental policies, especially clean fuels programs. The Administration's New Source Review reform program will also provide one tool to help add and update capacity.

NPRA wants to recognize a provision in the recently enacted energy legislation that will help encourage additional refining investment. The provision allows 50% expensing of the costs associated with expanding a refinery's output by more than 5%. The refiner must have a signed contract for the work by 1/1/08, and the equipment must be put in service by 1/1/12.

Common sense dictates that it is in our nation's best interest to manufacture the lion's share of the petroleum products required for U.S. consumption in domestic refineries and petrochemical plants. Nevertheless, we currently import more than 62% of the crude oil and oil products we consume.

Reduced U.S. refining capacity clearly affects our supply of refined

petroleum products and the flexibility of the supply system, particularly in times of unforeseen disruption or other stress. Unfortunately, EIA currently predicts “substantial growth” in refining capacity only in the Middle East, Central and South America, and the Asia/Pacific region, not in the U.S.

4. THE U.S. REFINING INDUSTRY IS DIVERSE AND COMPETITIVE.

Today’s U.S. refining industry is highly competitive. Some suggest past mergers are responsible for higher prices. The data do not support such claims. In fact, companies have become more efficient and continue to compete fiercely. There are 55 refining companies in the U.S., hundreds of wholesale and marketing companies, and more than 165,000 retail outlets. The biggest refiner accounts for only about 13 % of the nation’s total refining capacity; and the large integrated companies own and operate only about 10 % of the retail outlets. The Federal Trade Commission (FTC) thoroughly evaluates every merger proposal, holds industry mergers to the highest standards of review, and subjects normal industry operations to a higher level of ongoing scrutiny.

Critics of mergers sometimes suggest that industry is able to affect prices because it has become much more concentrated, with a handful of

companies controlling most of the market. This is untrue. According to data compiled by the U.S. Department of Commerce and by Public Citizen, in 2003 the four largest U.S. refining companies controlled a little more than 40 % of the nation's refining capacity. In contrast, the top four companies in the auto manufacturing, brewing, tobacco, floor coverings and breakfast cereals industries controlled between 80 % and 90 % of the market.

5. INDUSTRY IS WORKING HARD TO KEEP PACE WITH GROWING DEMAND FOR FUEL.

Despite the powerful factors that influence gasoline manufacturing, cost and demand, refiners are addressing current supply challenges and working hard to supply sufficient volumes of gasoline and other petroleum products to the public. Refineries have been running at very high levels, producing gasoline and distillate. Refiners operated at high utilization rates even before the start of the summer driving season. To put this in perspective, peak utilization rates for other manufacturers average about 82 %. At times during summer, refiners often operate at rates close to 98 %. However, such high rates cannot be sustained for long periods.

In addition to coping with higher fuel costs and growing demand, refiners are implementing significant transitions in major gasoline markets.

Nationwide, the amount of sulfur in gasoline will be reduced to an average of 30 parts per million (ppm) effective January 1, 2006, giving refiners an additional challenge in both the manufacture and distribution of fuel.

Equally significant, California, New York and Connecticut bans on use of MTBE are in effect. This is a major change affecting one-sixth of the nation's gasoline market. MTBE use as an oxygenate in reformulated gasoline accounted for as much as 11% of RFG supply at its peak; substitution of ethanol for MTBE does not replace all of the volume lost by removing MTBE. (Ethanol's properties generally cause it to replace only about 50% of the volume lost when MTBE is removed.) This lost volume must be supplied by additional gasoline or gasoline blendstocks. Especially during a period of supply concerns it is in the nation's interest to be prudent in taking any action that affects MTBE use. That product still accounts for 1.6% of the nation's gasoline supply on average, but it provides a larger portion of gasoline supplies in areas with RFG requirements that are not subject to an MTBE ban.

Obviously, refiners face a daunting task in completing many changes to deliver the fuels that consumers and the nation's economy require. But they are succeeding. And regardless of recent press stories, we need to remember

that American gasoline and other petroleum product prices have long been low when compared to the price consumers in other large industrialized nations pay for those products. The Federal Trade Commission recently found that “Gasoline supply, demand and competition produced relatively low and stable annual average real U.S. gasoline prices from 1984 until 2004, despite substantial increases in U.S. gasoline consumption.”

6. REFINERS FACE A BLIZZARD OF REGULATORY REQUIREMENTS AFFECTING BOTH FACILITIES AND PRODUCTS.

Refiners currently face the massive task of complying with fourteen new environmental regulatory programs with significant investment requirements, all in the same 2006 – 2012 timeframe. (See Attachment 3.) In addition, many programs start soon. (See Attachment 4.) For the most part, these regulations are required by the Clean Air Act. Some will require additional emission reductions at facilities and plants, while others will require further changes in clean fuel specifications. NPRA estimates that refiners are in the process of investing about \$20 billion to sharply reduce the sulfur content of gasoline and both highway and off-road diesel. Refiners will face additional investment requirements to deal with limitations on ether use, as well as compliance costs for controls on Mobile Source Air Toxics and other limitations. These costs do not include the

significant additional investments needed to comply with stationary source regulations that affect refineries.

Other potential environmental regulations on the horizon could force additional large investment requirements. They are: the challenges posed by increased ethanol use, possible additional changes in diesel fuel content involving cetane, and potential proliferation of new fuel specifications driven by the need for states to comply with the new eight-hour ozone NAAQS standard. The 8-hour standard could also result in more regulations affecting facilities such as refiners and petrochemical plants.

These are just some of the pending and potential air quality challenges that the industry faces. Refineries are also subject to extensive regulations under the Clean Water Act, Toxic Substances Control Act, Safe Drinking Water Act, Oil Pollution Act of 1990, Resource Conservation and Recovery Act, Emergency Planning and Community Right-To-Know (EPCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and other federal statutes. The industry also complies with OSHA standards and many state statutes. A complete list of federal

regulations impacting refineries is included with this statement. (See Attachment 5.)

API estimates that, since 1993, about \$89 billion (an average of \$9 billion per year) has been spent by the oil and gas industry to protect the environment. This amounts to \$308 for each person in the United States. More than half of the \$89 billion was spent in the refining sector.

Obviously, refiners face a daunting task in completing many changes to deliver the fuels that consumers and the nation's economy require. But they are succeeding. And regardless of recent press stories, we need to remember that American gasoline and other petroleum products have long been low when compared to the price consumers in other large industrialized nations pay for those products. The Federal Trade Commission recently found that "Gasoline supply, demand and competition produced relatively low and stable annual average real U.S. gasoline prices from 1984 until 2004, despite substantial increases in U.S. gasoline consumption."

7. A KEY GOVERNMENT ADVISORY PANEL HAS URGED MORE SENSITIVITY TO SUPPLY CONCERNS.

The National Petroleum Council (NPC) issued a landmark report on the state of the refining industry in 2000. Given the limited return on investment in the industry and the capital requirements of environmental regulations, the NPC urged policymakers to pay special attention to the timing and sequencing of any changes in product specifications. Failing such action, the report cautioned that adverse fuel supply ramifications may result. Unfortunately, this warning has been widely disregarded. On June 22, 2004 Energy Secretary Abraham asked NPC to update and expand its refining study and a report was released last December. NPRA again urges policymakers to take action to implement NPC's study recommendations in order to deal with U.S. refining problems.

8. NPRA Recommendations to Add Refining Capacity and Increase Future Product Supply

- Make increasing the nation's supply of oil, oil products and natural gas a number one public policy priority. Now, and for many years in the past, increasing oil and gas supply has often been a number 2 priority. Thus, oil and gas supply concerns have been secondary and subjugated to whatever

policy goal was more politically popular at the time. Enactment of the recent Energy Bill is a first step to making a first priority the supply of energy sources the nation depends upon.

- Remove barriers to increased supplies of domestic oil and gas resources.

Recent criticism about the concentration of America's energy infrastructure in the western Gulf is misplaced. Refineries and other important onshore facilities have been welcome in this area but not in many other parts of the country. Policymakers have also restricted access to much-needed offshore oil and natural gas supplies in the eastern Gulf and off the shores of California and the East Coast. These areas must follow the example of Louisiana and many other states in sharing these energy resources with the rest of the nation because they are sorely needed.

- Resist tinkering with market forces when the supply/demand balance is tight. Market interference that may initially be politically popular leads to market inefficiencies and unnecessary costs. Policymakers must resist turning the clock backwards to the failed policies of the past. Experience with price constraints and allocation controls in the 1970s demonstrates the

failure of price regulation, which adversely impacted both fuel supply and consumer cost.

- Expand the refining tax incentive provision in the Energy Act. Reduce the depreciation period for refining investments from 10 to seven or five years in order to remove a current disincentive for refining investment. Allow expensing under the current language to take place as the investment is made rather than when the equipment is actually placed in service. Or the percentage expensed could be increased as per the original legislation introduced by Senator Hatch.
- Review permitting procedures for new refinery construction and refinery capacity additions. Seek ways to encourage state authorities to recognize the national interest in more domestic capacity.
- Keep a close eye on several upcoming regulatory programs that could have significant impacts on gasoline and diesel supply. They are:

? Design and implementation of the credit trading program for the ethanol mandate (RFS) contained in the recent Energy Act. This mechanism is vital to increase the chance that this program can be implemented next year without additional gasoline supply disruption.

Additional resources are needed within EPA to accomplish this key task.

? Implementation of the ultra low sulfur diesel highway diesel regulation. The refining industry has made large investments to meet the severe reductions in diesel sulfur that take effect next June. We remain concerned about the distribution system's ability to deliver this material at the required 15 ppm level at retail. If not resolved, these problems could affect America's critical diesel supply. Industry is working with EPA on this issue, but time left to solve this problem is growing short.

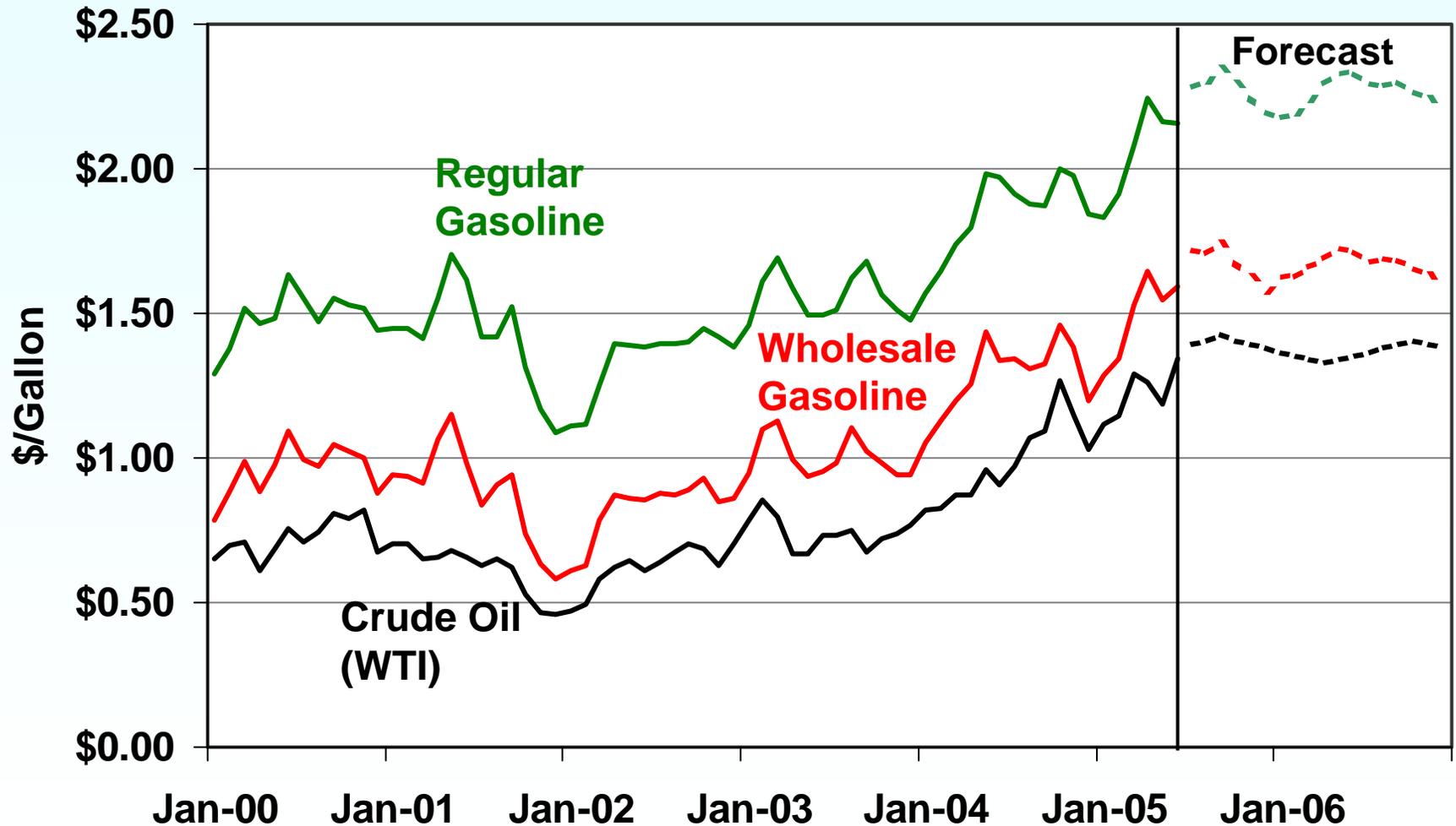
? Phase II of the MSAT (mobile source air toxics) rule for gasoline. Many refiners are concerned that this new regulation, which we expect next year, will be overly stringent and impact gasoline supply. We are working with EPA to help develop a rule that protects the environment and avoids a reduction in gasoline supply.

? Implementation of the new 8-hour ozone NAAQS standard. The current implementation schedule determined by EPA has established ozone attainment deadlines for parts of the country that will be

impossible to meet. EPA has to date not made changes that would provide realistic attainment dates for the areas. The result is that areas will be required to place sweeping new controls on both stationary and mobile sources, in a vain effort to attain the unattainable. The new lower-sulfur gasoline and ULSD diesel programs will provide significant reductions to emissions within these areas once implemented. But they will not come soon enough to be considered unless the current unrealistic schedule is revised. If not, the result will be additional fuel and stationary source controls which will have an adverse impact on fuel supply and could actually reduce U.S. refining capacity. This issue needs immediate attention.

NPRA's members are dedicated to working cooperatively with government at all levels to resolve the current emergency conditions that result from Hurricane Kristina. But we feel obliged to remind policymakers that action must also be taken to improve energy policy in order to increase supply and strengthen the nation's refining infrastructure. We look forward to answering the Committee's questions.

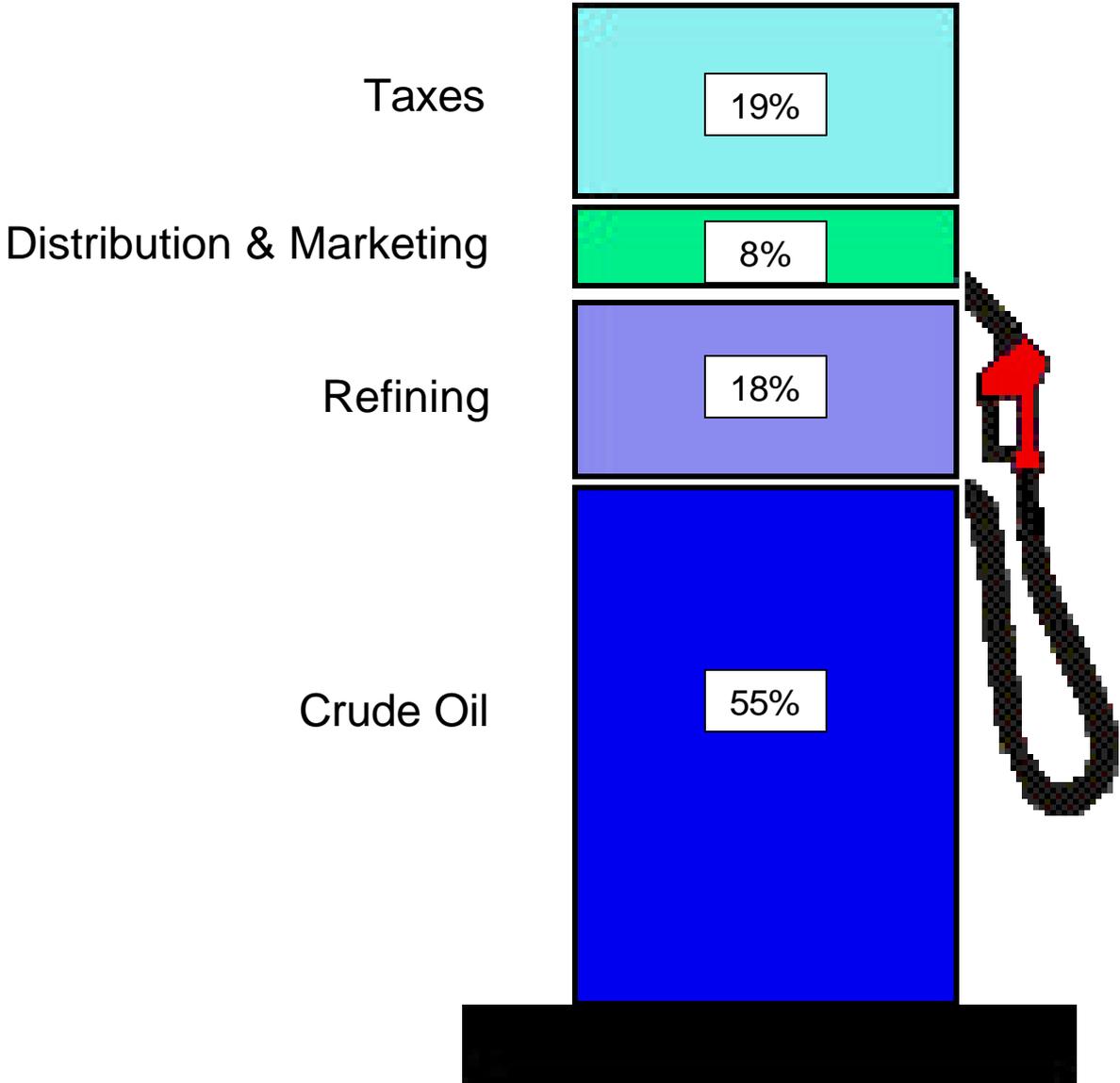
Crude Oil and Gasoline Price Outlook



Sources: History: EIA; Projections: Short-Term Energy Outlook, July 2005.



What We Pay for in a Gallon of Regular Gasoline



Projected Regulatory Impacts on Refineries, 2006 - 2012*



2006 2007 2008 2009 2010 2011 2012

Tier II Gasoline Sulfur¹

Renewable Fuels Volumes Increase Each Year
Renewable Fuels Standard²

Highway Diesel Sulfur³

State MTBE Bans⁴

State Ethanol RVP Waivers⁵

Mobile Source Air Toxics Phase II⁶

Boutique Fuels Cap⁷

Gasoline Toxics Anti-Backsliding⁸

Off-Road Diesel Sulfur⁹

8 Hour Ozone NAAQS¹⁰

New Source Review¹¹

PM 2.5 NAAQS¹²

New Source Performance Standards¹³

Residual Risk¹⁴

Regional Haze

Facility Security Regulations¹⁵

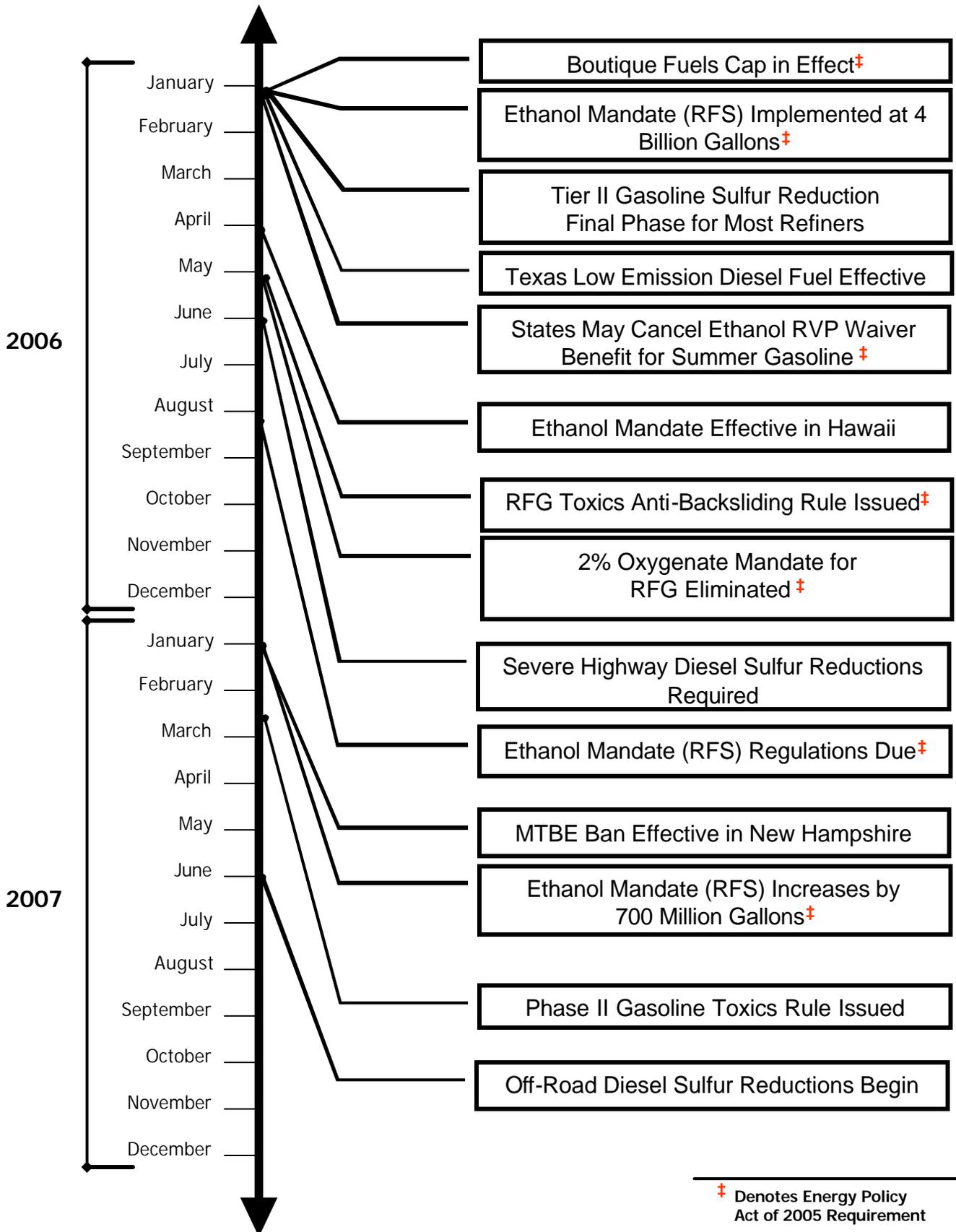
KEY

- Fuels Regulations
- Stationary Source Regulations
- ★ Some dates and compliance schedules are estimated.

Notes:

1. Longer compliance time for refineries in Alaska and Rocky Mountain states as well as small refineries covered by the Small Business Regulatory Enforcement and Flexibility Act (SBREFA). Additional compliance time is available for these refineries if they produce ultra low sulfur highway diesel beginning in 2006.
2. The Energy Policy Act of 2005 includes a renewable fuels standard (RFS) which mandates the use of 4 billion gallons of renewable fuels starting in 2006. The mandate increases to 7.5 billion gallons in 2012. EPA must promulgate regulations by August 2006.
3. Longer compliance time for small refiners covered by SBREFA.
4. Approximately twenty-five states currently have MTBE bans in place and others may pass similar bans in the future.
5. The Energy Policy Act of 2005 allows state governors to petition EPA to eliminate the one pound RVP waiver for summer gasoline blended with ethanol.
6. Phase II Mobile Source Air Toxics Rule to be proposed in February, 2006. Final rule expected in 2007.
7. The Energy Policy Act of 2005 caps the number of motor fuels available for use in State Implementation Plans at the same level as those already in use as of September 1, 2004. EPA must publish a list of approved fuels by state and PADD by November, 2005.
8. Under the Energy Policy Act of 2005 EPA must promulgate a rule to implement RFG anti-backsliding adjustments that will maintain emissions at 2001 and 2002 levels.
9. The first phase of the off-road diesel sulfur program is effective in 2007 and the second phase is effective in 2011.
10. Ozone non-attainment designations made April 2004. State Implementation Plans (SIPs) are due by June 2007. Compliance, depending upon classification, required between 2007 and 2021. EPA promulgated a Phase 1 implementation rule in April 2004, but has not yet promulgated a Phase 2 rule.
11. New Source Review reform (RMRR) is subject to litigation. Refiners face uncertainty in meeting regulatory requirements. The NSR program was upheld in part by the courts however, part of the rule was remanded to EPA. Refiners support the reforms. EPA is continuing enforcement actions under the old rules.
12. EPA set a new PM 2.5 NAAQS in 1997 and designated nonattainment areas in December 2004, but has not yet promulgated implementation standards. EPA is currently conducting a five-year review of the standard.
13. EPA has entered into a consent decree with environmental organizations to review, and possibly revise, the New Source Performance Standards for petroleum refineries.
14. Proposed rule expected mid 2006.
15. The Senate and the Administration support new authority for DHS to regulate chemical security which will impact refiners. Many facilities currently meet Coast Guard regulations under MTSR.

Fuels Timeline



Appendix A
PETROLEUM REFINING: APPLICABLE REGULATIONS

Name	Code of Federal Regulation (CFR) Cite	Effective Date
CLEAN AIR ACT (CAA)		
New Source Performance Standards (NSPSs)	40 CFR Part 60	
Subpart A: General Provisions	40 CFR Part 60	mid 1970s
Subpart Cb: Designated Facilities - Existing Sulfuric Acid Units	40 CFR Part 60	1991
Subpart D: Fossil-Fuel Fired Steam Generators Constructed After 8/17/71	40 CFR Part 60	1977
Subpart Da: Electric Utility Steam Generating Units Constructed After 9/18/78	40 CFR Part 60	1978
Subpart Db: Industrial-Commercial-Institutional Steam Generating Units	40 CFR Part 60	1987
Subpart Dc: Small Industrial-Commercial-Institutional Steam Generating Units	40 CFR Part 60	1990
Subpart H: Sulfuric Acid Units	40 CFR Part 60	1977
Subpart J: Petroleum Refineries	40 CFR Part 60	1978
Subpart K: Storage Vessels for Petroleum Liquids Constructed, Reconstructed or Modified between 6/11/73 and 5/19/78	40 CFR Part 60	1977
Subpart Ka: Storage Vessels for Petroleum Liquids Constructed, Reconstructed or Modified between 5/18/78 and 7/23/84	40 CFR Part 60	1980
Subpart Kb: Volatile Organic Liquid Storage	40 CFR Part 60	1987
Subpart GG: Stationary Gas Turbines	40 CFR Part 60	1978
Subpart UU: Asphalt Processing and Roofing Manufacturing	40 CFR Part 60	1982
Subpart VV: Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI)	40 CFR Part 60	1983
Subpart XX: Bulk Gasoline Terminals	40 CFR Part 60	1983
Subpart GGG: Equipment Leaks of VOC in Petroleum Refineries	40 CFR Part 60	1984
Subpart III: VOC Emissions for SOCMI Air Oxidation Unit Processes	40 CFR Part 60	1990
Subpart NNN: VOC Emissions for SOCMI Distillation Processes	40 CFR Part 60	1990
Subpart QQQ: VOC Emissions for Petroleum Refinery Wastewater Systems	40 CFR Part 60	1988
Subpart RRR: SOCMI Reactor Processes	40 CFR Part 60	1993
National Emission Standards for Hazardous Air Pollutants (NESHAPs)		
Subpart A: General Provisions	40 CFR Part 61	1973
Subpart J/V: Equipment Leaks (Fugitive Emission Sources) of Benzene	40 CFR Part 61	mid 1980s
Subpart M: Asbestos	40 CFR Part 61	1984
Subpart Y: Benzene Emissions from Benzene Storage Vessels	40 CFR Part 61	mid 1980s
Subpart BB: Benzene Emissions from Benzene Transfer Operations	40 CFR Part 61	mid 1980s
Subpart FF: Benzene Waste Operations	40 CFR Part 61	1993

Name	Code of Federal Regulation (CFR) Cite	Effective Date
NESHAPs for Source Categories		
Subpart A: General Provisions	40 CFR Part 63	1994
Subpart B: Control Technology Determination	40 CFR Part 63	1994
Subpart F: SOCOMI	40 CFR Part 63	1994
Subpart G: SOCOMI Process Vents, Storage Vessels, Transfer Operations, and Wastewater	40 CFR Part 63	1994
Subpart H: Equipment Leaks	40 CFR Part 63	1994
Subpart I: NESHAP for Organic Hazardous Air Pollutants (HON); Certain Processes Subject to the Negotiated Regulation for Equipment Leaks	40 CFR Part 63	1994
NESHAP for HON (partially under stay pending reconsideration for compressors, surge control vessels, and bottom receivers)	40 CFR Part 63	4/22/94
Subpart Q: Industrial Cooling Towers	40 CFR Part 63	1994
Subpart R: Stage I Gasoline Distribution Facilities	40 CFR Part 63	12/14/94
Subpart T: Halogenated Solvent Cleansing (MACT)	40 CFR Part 63	12/2/94
Subpart Y: NESHAP for Marine Tank Vessel Loading and Unloading Operations (MACT)	40 CFR Parts 9, 63	mid 1995
Subpart CC: NESHAP for Petroleum Refining — Phase I (MACT)	40 CFR Parts 9, 60, 63	mid 1995
Stack Height Provisions	40 CFR Part 51, Subpart G	1986
Control Technology Guidelines (CTGs)		
Petroleum Liquid Storage In External Floating Roof Tanks	40 CFR Part 52	1978
Petroleum Liquid Storage in Fixed Roof Tanks	40 CFR Part 52	1977
Petroleum Refinery Equipment Leaks	40 CFR Part 52	1978
Refinery Vacuum Producing Systems, Wastewater Separators and Process Unit Turnarounds	40 CFR Part 52	1977
SOCMI Air Oxidation Processes	40 CFR Part 52	1984
SOCMI Distillation Operations and Reactor Processes	40 CFR Part 52	1993
Tank Truck Gasoline Loading Terminals	40 CFR Part 52	1977
Fuels		
Fuel and Fuel Additives:		
Registration Requirements	40 CFR Part 79	5/27/94
Interim Requirements for Deposit Control Gasoline Additives	40 CFR Part 80	1/1/95
Reid Vapor Pressure Limitation	40 CFR Part 80	late 1980s
Oxygenated Fuel Requirement	40 CFR Part 80	1992
Lead Phaseout	40 CFR Part 80	12/31/95
Reformulated Gasoline	40 CFR Part 80	1/1/95
Low Sulfur Diesel	40 CFR Part 85	1993
Permits		
State Operating Permit Program - Title V (Revised 8/29/94)	40 CFR Part 70	1992
Prevention of Significant Deterioration (new sources in attainment areas) and New Source Review (new sources in non-attainment areas); LAER requirements (existing source)	40 CFR Part 52	1978
Stratospheric Ozone	40 CFR Part 82	1990-2015

Name	Code of Federal Regulation (CFR) Cite	Effective Date
Acid Rain Provisions	40 CFR Parts 72, 73, 75, 77, 78	ongoing
Nitrogen Oxides Emission Reduction Program	40 CFR Part 76	1994
CLEAN WATER ACT (CWA)		
Discharge of Oil: Notification Requirements	40 CFR Part 110	1987
Designation of Hazardous Substances	40 CFR Part 116	1978
Notice of Discharge of a Reportable Quantity	40 CFR Part 117	late 1970s
Spill Prevention, Control, and Countermeasures (SPCC) Requirements for Oil Storage	40 CFR Part 112	mid 1970s
General Provisions for Effluent Guidelines and Standards	40 CFR Part 401	1974
Toxic Pollutant Effluent Standards	40 CFR Part 129	1977
Effluent Guidelines and Categorical Pretreatment Standards	40 CFR Part 419	late 1970s - mid 1980s
Water Quality Standards for Toxic Pollutants	40 CFR Part 131	2/5/93
General National Pretreatment Standards	40 CFR Part 403	early 1980s
Great Lakes Water Quality Guidance	40 CFR Parts 9, 122, 123, 131, 132	early 1995
NPDES		
Stormwater Application, Permit, and Reporting Requirements Associated with Industrial Activities	40 CFR Part 122	5/4/92
Permit	40 CFR Parts 121-125	early 1980s
OIL POLLUTION ACT (OPA)		
Natural Resource Damage Assessments (NRDA) under National Oceanic and Atmospheric Administration	15 CFR Part 990	early 1996
Response Plans for Marine Transportation-Related Facilities (interim final rule)	33 CFR Parts 150, 154	1/19/93
Oil Pollution Prevention; Non-Transportation-Related Onshore Facilities	40 CFR Parts 9, 112	8/30/94
RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)		
Non-Hazardous Waste Requirements (Subtitle D)	40 CFR Parts 256, 257 (Federal guidelines for state/local requirements)	late 1970s, early 1980s
Subtitle C Requirements		
General Requirements for Hazardous Waste Management	40 CFR Part 260	late 1970s
Identification and Listing of Hazardous Wastes and Toxicity Characteristics	40 CFR Part 261	late 1970s
Standards Applicable to Generators of Hazardous Wastes		
Subpart A: General Provisions	40 CFR Part 262	early 1980s
Subpart B: Shipping Manifest	40 CFR Part 262	early 1980s
Subpart C: Packaging, Labeling, Marking, and Placarding	40 CFR Part 262	early 1980s
Subpart D: Recordkeeping and Reporting	40 CFR Part 262	early 1980s
Subparts E & F: Exports and Imports	40 CFR Part 262	early 1980s
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (and generally for Interim Status)		
Subparts A & B: General Provisions & Facility Standards	40 CFR Part 264 (265)	early 1980s
Subparts C & D: Preparedness, Prevention, & Emergency Plans	40 CFR Part 264 (265)	early 1980s
Subpart E: Recordkeeping/Reporting Requirements	40 CFR Part 264 (265)	early 1980s

Name	Code of Federal Regulation (CFR) Cite	Effective Date
Subpart F: Releases from Units	40 CFR Part 264	early 1980s
Subpart F: Groundwater Monitoring Requirements (Interim Status only)	40 CFR Part 265	early 1980s
Subpart G: Closure and Post-closure Requirements	40 CFR Part 264 (265)	1986
Subpart H: Financial Responsibility Requirements	40 CFR Part 264 (265)	early 1980s
Subparts I, J, K, & L: Use and Management of Containers, Tank Systems, Surface Impoundments, & Waste Piles	40 CFR Part 264 (265)	early 1980s (except tanks: 1986)
Liners and Leak Detection for Hazardous Waste Land Disposal Units	40 CFR Part 264 (265)	1992
Double Liners and Leachate Collection Systems for Hazardous Waste Disposal Units	40 CFR Parts 144, 264 (265)	1992
Subparts M, N, & O: Land Treatment, Landfills, & Incinerators	40 CFR Part 264 (265)	early 1980s
Subpart S: Corrective Action	40 CFR Part 264 (265)	1985 (1993)
Subparts AA, BB, & CC: Air Emission Standards for Process Vents; Equipment Leaks; & Tanks, Surface Impoundments, and Containers	40 CFR Part 264 (265)	
Phase I	40 CFR Part 264 (265)	1990
Phase II	40 CFR Part 264 (265)	1994
Standards for the Management of Specific Hazardous Wastes	40 CFR Part 266	1985
Land Disposal Restrictions	40 CFR Part 268	1986
Phase I: Contaminated Debris and Newly Identified Wastes, F037 and F038 Petroleum	40 CFR Parts 148, 268	1992, 1993
Phase II: Set Treatment Standards (BDAT) for TC Wastes and Establish Universal Treatment Standards	40 CFR Parts 148, 268	1994
Permits	40 CFR Parts 270, 271, 272	1980s
Standards for the Management of Used Oil: Used Oil Destined for Recycling	40 CFR Part 279	1993
Underground Storage Tanks: Technical Standards and Corrective Action	40 CFR Part 280	1988
SAFE DRINKING WATER ACT (SDWA)		
Underground Injection Control Regulations	40 CFR Parts 144, 146	12/16/93
SUPERFUND (CERCLA)		
Natural Resource Damage Assessments (also under CWA)	43 CFR Part 11	3/17/94
Reportable Quantities Releases (Notification to National Response Center)	40 CFR Part 302	mid 1980s
Extremely Hazardous Substances (EHSs) Emergency Planning	40 CFR Part 355	1987
EHS Release Notification (Notification to State Emergency Response Commission, Local Emergency Response Commission) and Follow-up	60 CFR Part 355	mid 1980s
Community Right-To-Know		
Hazardous Chemicals (Material Safety Data Sheet Chemicals) Inventory Reporting	40 CFR Part 370	late 1980s
Toxic Chemical Release Reporting	40 CFR Part 372	1988
Expansion of TRI List	40 CFR Part 372	11/30/94

Name	Code of Federal Regulation (CFR) Cite	Effective Date
TOXIC SUBSTANCES CONTROL ACT (TSCA)		
General Provisions	40 CFR Part 702	1982
Reporting and Recordkeeping Requirements	40 CFR Parts 704, 710	1988, late 1970s
Chemical Information Rule	40 CFR Part 712	1982
Health & Safety Data Reporting	40 CFR Parts 716	1986
Premanufacture Notification (and Exemptions)	40 CFR Parts 720 (723)	1983 (1995)
Significant New Uses	40 CFR Part 721	1988
Chromium Comford D Cooling Towers	40 CFR Part 749	1990
Rules for Controlling Polychlorinated Biphenyls	40 CFR Part 761	1979
Asbestos-Containing Products Labelling Requirements	40 CFR Part 763	1979

Update of Appendix A¹

Name	Code of Federal Regulation (CFR) Cite
CLEAN AIR ACT (CAA)	
New Source Performance Standards	40 CFR Part 60
Subpart CCCC: Commercial and Industrial Solid Waste Incineration Units	40 CFR Part 60
NESHAPS for Source Categories	40 CFR Part 63
Subpart EEE: Hazardous Waste Combustors	40 CFR Part 63
Subpart UUU: Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (Refinery MACT II)	40 CFR Part 63
Subpart EEEE: Organiz Liquids Distribution (Non- Gasoline)	40 CFR Part 63
Subpart FFFF: Miscellaneous Organic Chemical Manufacturing	40 CFR Part 63
Subpart YYYY: Stationary Combustion Turbines	40 CFR Part 63
Subpart GGGGG: Site Remediation	40 CFR Part 63
Subpart LLLLL: Asphalt Roofing and Asphalt Processing	40 CFR Part 63
Subpart DDDDD: Industrial/Commerical/Institutional Boilers and Process Heaters	40 CFR Part 63
Subpart ZZZZZ: Reciprocating Internal Combustion Engines	40 CFR Part 63
Fuels	40 CFR Part 80
Subpart H: Tier II Gasoline Sulfur	40 CFR Part 80
Subpart I: Ultra Low Sulfur Highway Diesel	40 CFR Part 80
Subpart J: Mobile Source Air Toxics	40 CFR Part 80

¹ As of April 2004 Source: NPRA