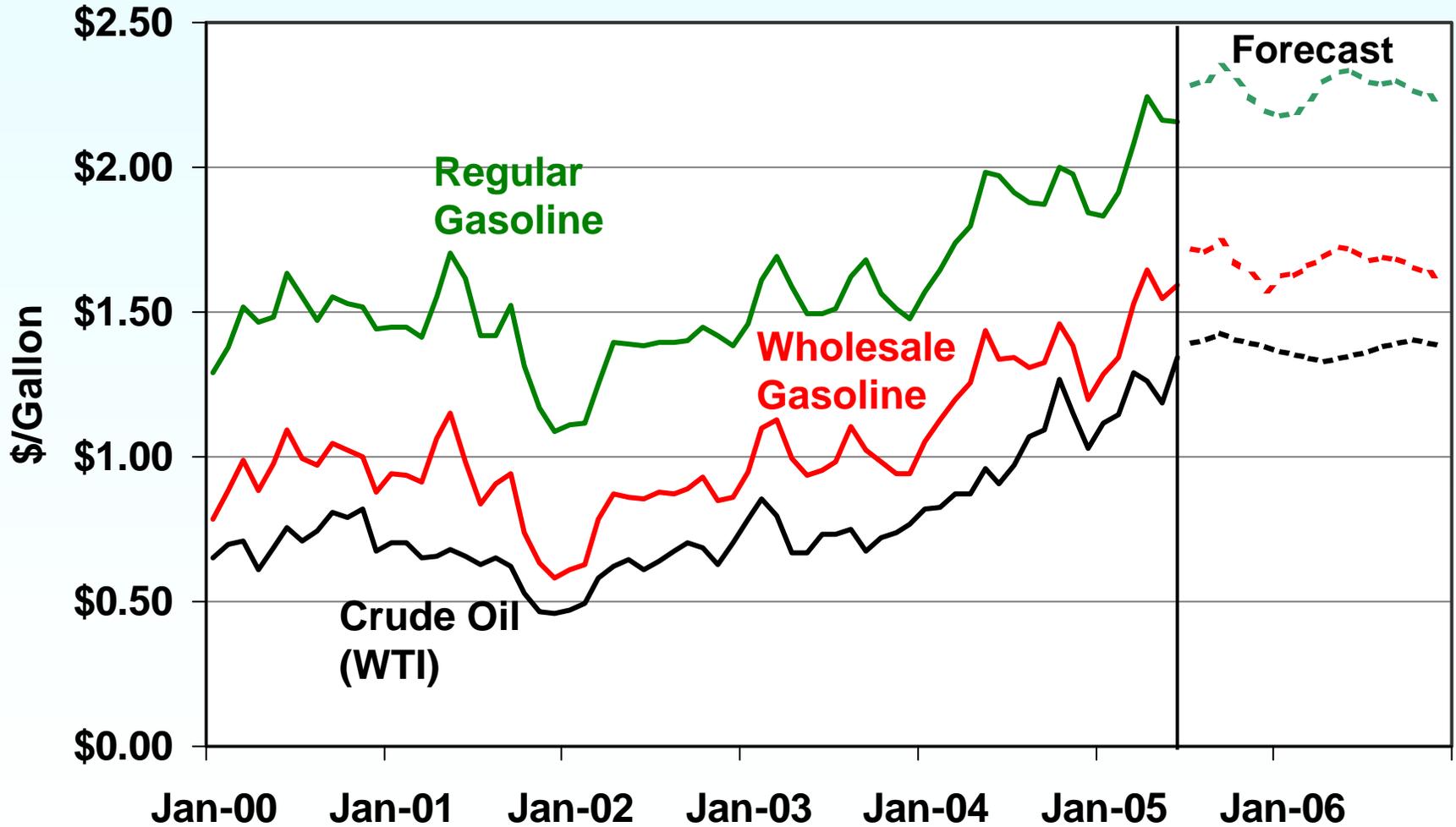


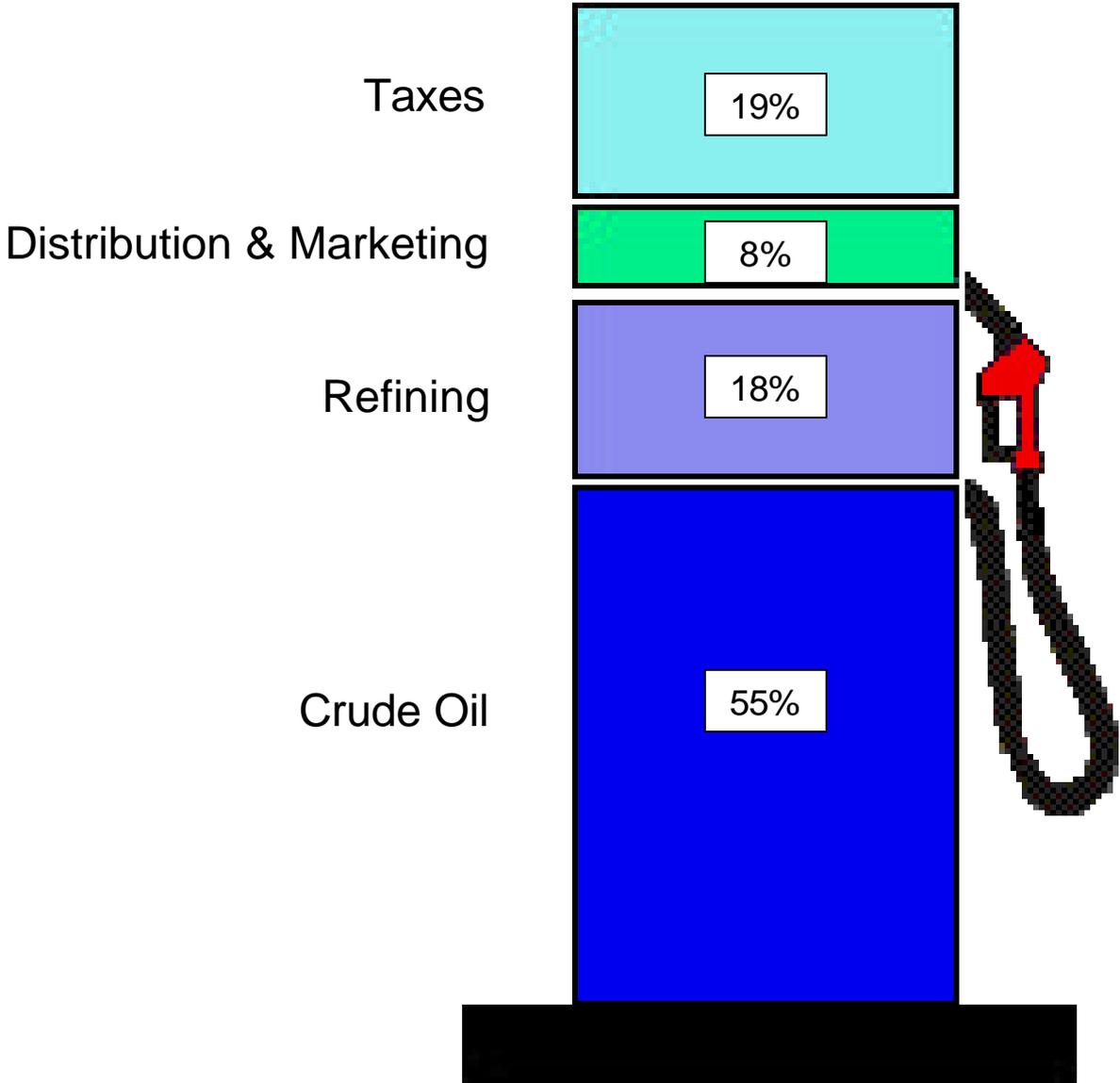
# Crude Oil and Gasoline Price Outlook



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

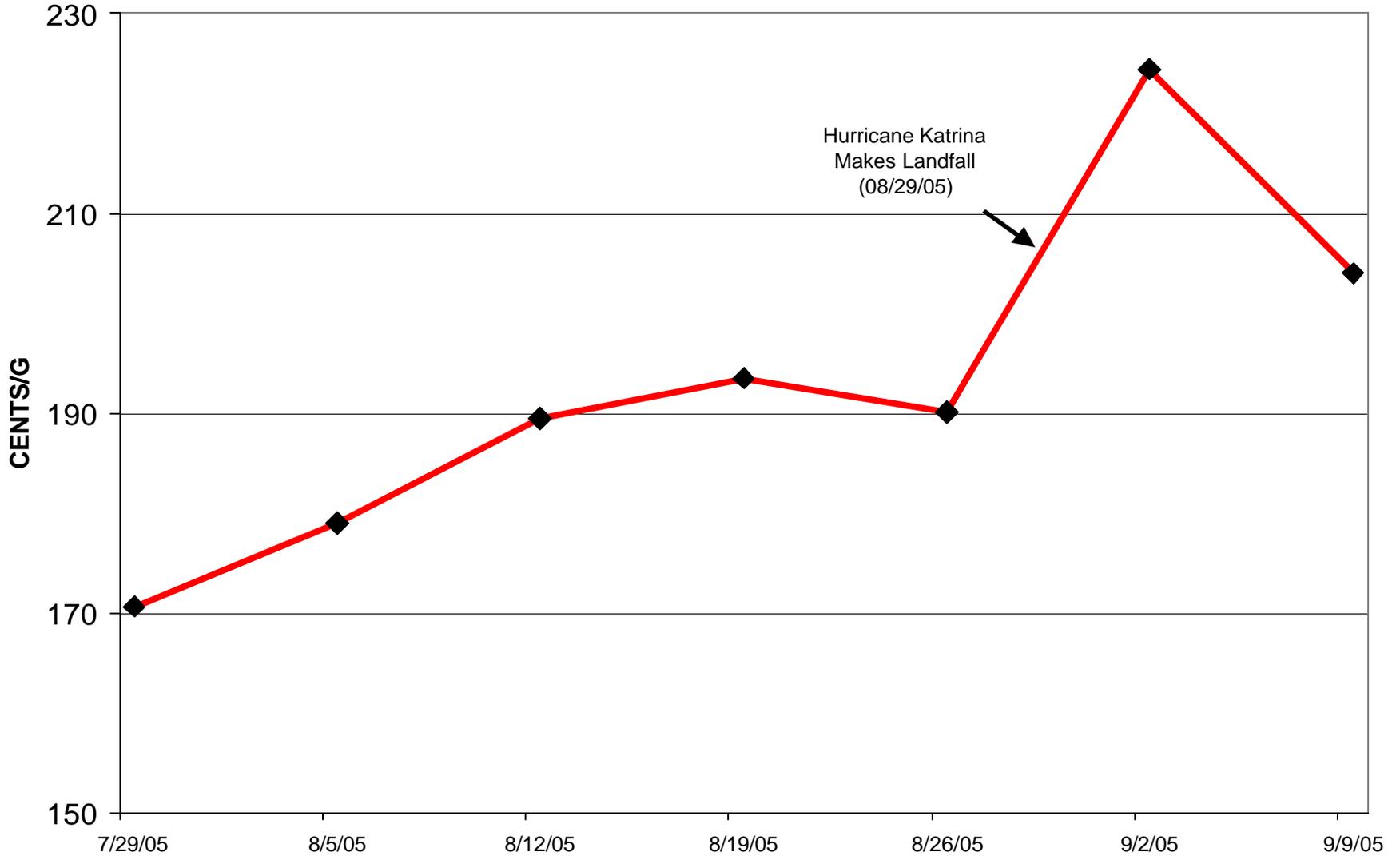


# What We Pay for in a Gallon of Regular Gasoline

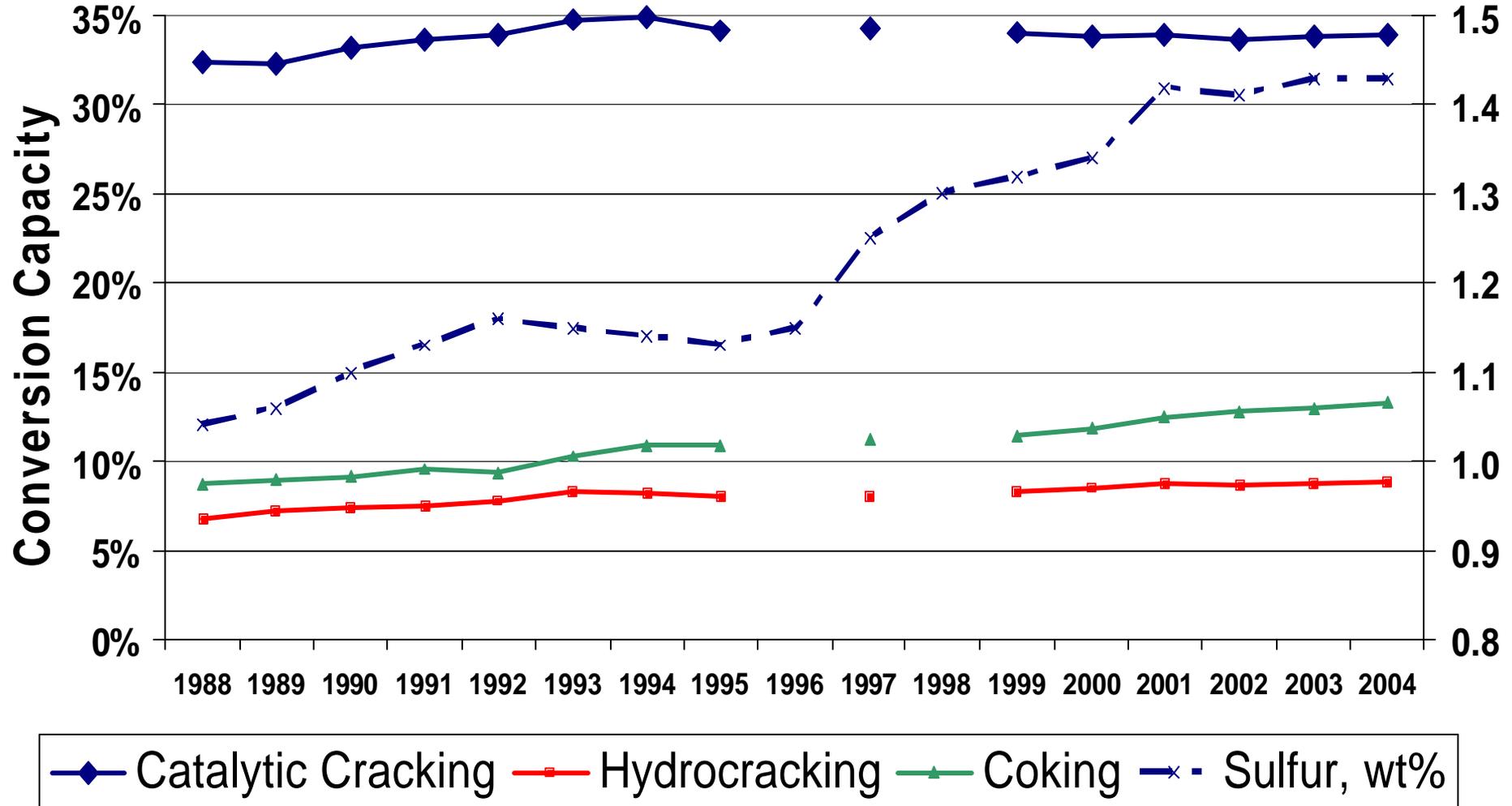


# New York Mercantile Exchange

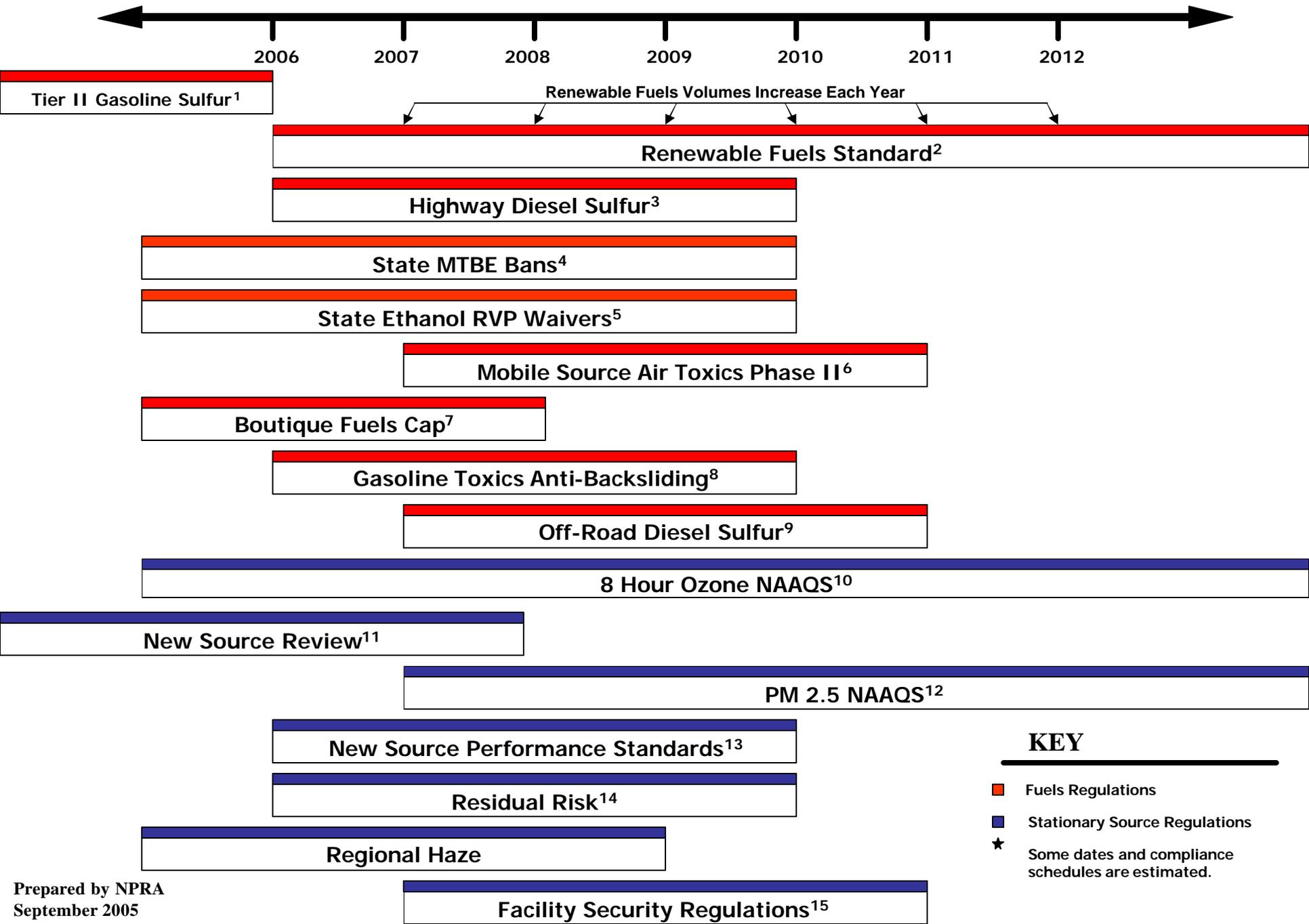
## Unleaded Gasoline Weekly Average Settlement Price



# US Refining Capability



# Projected Regulatory Impacts on Refineries, 2006 - 2012\*



**KEY**

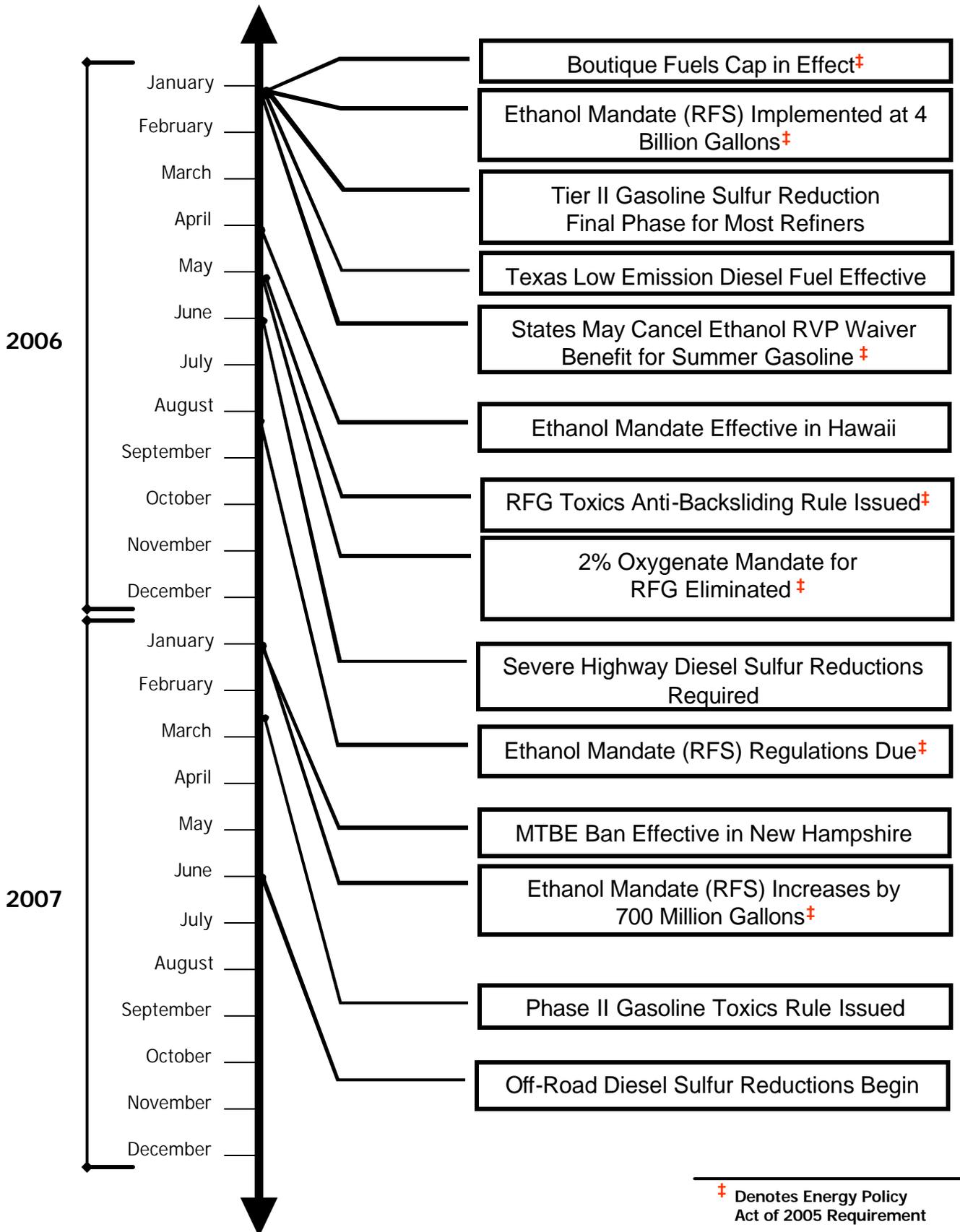
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- Fuels Regulations
- Stationary Source Regulations
- ★ Some dates and compliance schedules are estimated.

## 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



† Denotes Energy Policy Act of 2005 Requirement

**Appendix A**  
**PETROLEUM REFINING: APPLICABLE REGULATIONS**

Name	Code of Federal Regulation (CFR) Cite	Effective Date
<b>CLEAN AIR ACT (CAA)</b>		
<b>New Source Performance Standards (NSPSs)</b>	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
<b>National Emission Standards for Hazardous Air Pollutants (NESHAPs)</b>		
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
<b>NESHAPs for Source Categories</b>		
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
<b>Control Technology Guidelines (CTGs)</b>		
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
<b>Fuels</b>		
<b>Fuel and Fuel Additives:</b>		
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
<b>Permits</b>		
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
<b>CLEAN WATER ACT (CWA)</b>		
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
<b>NPDES</b>		
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
<b>OIL POLLUTION ACT (OPA)</b>		
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
<b>RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)</b>		
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
<b>SAFE DRINKING WATER ACT (SDWA)</b>		
Underground Injection Control Regulations	40 CFR Parts 144, 146	12/16/93
<b>SUPERFUND (CERCLA)</b>		
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
<b>Community Right-To-Know</b>		
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
<b>TOXIC SUBSTANCES CONTROL ACT (TSCA)</b>		
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 A<sup>1</sup>

Name	Code of Federal Regulation (CFR) Cite
<b>CLEAN AIR ACT (CAA)</b>	
New Source Performance Standards	40 CFR Part 60
Subpart CCCC: Commercial and Industrial Solid Waste Incineration Units	40 CFR Part 60
<b>NESHAPS for Source Categories</b>	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 YYYYY: 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
<b>Fuels</b>	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

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<sup>1</sup> As of April 2004 Source: NPRA