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March 31, 2017

Office of Policy and Strategic Planning
Department of Commerce
H.C. Hoover Building Rm. 5863
1401 Constitution Ave., NW
Washington, DC 202030

Attention: Docket ID Number 170302221-7221-01

Submitted to the Federal eRulemaking Portal (www.regulations.gov)

Re: U.S. Department of Commerce's Request for Information, "Impact of Federal Regulations on Domestic Manufacturing"

To Whom It May Concern:

The American Fuel & Petrochemical Manufacturers (AFPM) respectfully submits these comments in response to the Department of Commerce's Request for Information, titled "Impact of Federal Regulations on Domestic Manufacturing."[1]

AFPM is a national trade association representing nearly 400 companies that encompass virtually all U.S. refining and petrochemical manufacturing capacity. Millions of Americans use products produced by AFPM members every day. Our members serve the American people responsibly and effectively by manufacturing virtually all U.S. fuel and petrochemicals, strengthening economic and national security, and providing jobs directly and indirectly for over four million people.

While domestic fuel and petrochemical manufacturers have invested and will continue to invest substantial capital in environmental protection, AFPM member companies face regulatory obstacles that can undermine the ability of petrochemical manufacturers and refiners to create jobs and compete in the global economy. It is a truism that our modern lifestyle is inextricably linked to the fuels and petrochemicals AFPM members produce. AFPM supports regulations that are data driven, create a level playing field upon which to compete, and have benefits that exceed the regulation's costs. That said, the U.S. regulatory and permitting burden, if left unchecked, creates an economic incentive to produce these essential products outside the country, threatening well-paying jobs, tax revenues, and the security of the nation.

AFPM looks forward to continuing our work with you and other federal agencies to create a regulatory environment that protects public health and welfare without destroying jobs, jeopardizing our nation's energy security, or eroding our domestic manufacturing capabilities. If you have any questions about our comments or need any additional information, please contact me at (202) 552-8461 or dfriedman@afpm.org.

Sincerely,

David Friedman
Vice President, Regulatory Affairs

[1] https://www.gpo.gov/fdsys/pkg/FR-2017-03-07/html/2017-04516.htm

AFPM Comments on the Request for Information – "Impact of Federal Regulations on Domestic Manufacturing"

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AFPM supports sensible regulations based on sound science and rigorous cost-benefit analysis. Our members have invested than $150 billion since 1990 to dramatically reduce emissions from their facilities and we are continuing to make progress working with the Environmental Protection Agency (EPA) and state and local environmental agencies. We support the President's call to expedite review and approval of proposals to construct or expand manufacturing facilities contained in his January 24, 2017 Memorandum.[2]

As our responses below demonstrate, refineries and petrochemical facilities are subject to multiple layers of environmental, health, safety, and fuels regulations, including emissions limitations at both the facility and equipment levels. In addition, like other industries, we must undertake an exceedingly long and complex permitting process when we seek to build new facilities, expand existing facilities, and even to install new emissions control equipment. This process can take many years, involve multiple agencies, introduce redundancy, and, in some cases, result in the abandonment of projects that would enhance our nation's refining and petrochemical manufacturing capacities and employment in our industries and related industries and suppliers. Each permitting requirement also presents an opportunity for environmental extremists to delay projects through citizen suits and other tactics to advance an anti-fossil fuel agenda. Therefore, we welcome the opportunity to share our initial thoughts on your questions regarding how the permitting process and the regulatory environment in which the refinery and petrochemical sectors operate can be improved.

Our responses to your specific questions are contained below. As this process moves forward to the report of the Secretary of Commerce to the President, however, we would be happy to provide additional explanation and detail.

I. Questions Concerning Manufacturing Permitting Process

How many permits from a Federal agency are required to build, expand or operate your manufacturing facilities?

The number of environmental permits (in addition to the considerable number of other non-environmental permits) required to build, expand and operate a petroleum refinery or petrochemical facility vary according to the precise size and type of facility and its location. Typically, however, a refinery or petrochemical facility must obtain:

- *Prevention of Significant Deterioration (PSD)/Nonattainment New Source Review (NNSR) permit*. A PSD permit is required in areas of the country that meet National Ambient Air Quality Standards (NAAQS).[3] An NNSR permit is required in areas that do not meet NAAQS.[4] In general, a PSD or NNSR permit is required for the

[2] Presidential Memorandum Streamlining Permitting and Reducing Regulatory Burdens for Domestic Manufacturing, Jan. 24, 2017.
[3] There are currently six NAAQS: sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), ozone (O_3), and lead (Pb). NAAQS are also sometimes referred to as "criteria pollutants." A PSD or NNSR permit may be required based on whether an area is in attainment or nonattainment regarding *each* NAAQS.
[4] Collectively, these permits are often referred to as new source review (NSR) permits.

construction of a new refinery[5] or petrochemical facility or for the reconstruction or modification of an existing refinery or petrochemical facility where, as a result of the project, there is a net increase in emissions that exceeds "significant" emission rates.[6] Thus, building a new refinery or petrochemical facility or substantially expanding an existing one will normally require an owner/operator to apply for and receive a PSD/NNSR permit *before* construction or modification of a facility can occur. As part of this process, those seeking a permit are often required to undertake expensive and complex atmospheric modeling of the project's worst case emissions (which would almost never occur in actual operations). In many circumstances, this modeling is costly and can result in significant expense and schedule delay, including the need to address comments received from groups opposed to the project. Where the cost to mitigate theoretical emissions and/or schedule delays proves too great, a project that has otherwise met all the other permitting hurdles can end up being cancelled.

- *Title V Operating permit*. A Title V permit is required for any facility that is considered to be a "major source" pursuant to the Clean Air Act. In practice, this means that all refineries and petrochemical facilities operating in the United States require a Title V permit. This permit contains all federal and state air regulations that are applicable to the refinery or petrochemical facility. As a result, Title V permits are often lengthy documents that detail specific emission limits, monitoring, and recordkeeping requirements. A Title V permit must be renewed every five years and is subject to public notice and comment. The act of renewing a Title V permit (at least for high profile facilities) can often be contentious and holds the potential for litigation from those opposed to the operation of the facility.

- *New Source Performance Standards (NSPS)/National Emission Standards Hazardous Air Pollutants (NESHAPs)*. Numerous NSPS and NESHAPs apply to petroleum refineries and petrochemical facilities and various equipment located at a refinery or petrochemical facility.[7] NSPS and NESHAPs are not permitting requirements themselves, but are addressed in a facility's PSD/NNSR permit and/or Title V permit. In brief, EPA establishes NSPS for various pollutants through rulemakings that determine what the "best system of emissions reduction" is for each regulated air pollutant.[8] NSPS apply both individually to refineries and petrochemical facilities and refinery and petrochemical equipment and they also serve as the "floor" level of control for purposes of PSD/NSPS permitting. NESHAPs are established for various hazardous air pollutants (HAPs) based on an evaluation of "best performing" emission control systems.[9] Since they apply to existing sources, NESHAPs may trigger Title V permitting requirements and they otherwise would be considered an "applicable requirement" for purposes of Title

[5] A new refinery would be considered to be a "major" source under the Clean Air Act because it would emit more than 100 tons per year (tpy) of a criteria pollutant.
[6] Significance levels for various pollutants vary from 100 tpy for carbon monoxide to 40 tpy for emissions of various criteria pollutants and lower levels for other pollutants (*e.g.*, 7 tpy for sulfuric mist).
[7] The Appendix of this document contains a list of potentially applicable regulations.
[8] *See* 42 U.S.C. §7411(a)(1).
[9] *See* 42 U.S.C. §7412(d).

V permitting. Both NSPS and NESHAPs can require existing refineries and petrochemical facilities[10] to install new emission pollution control devices or take other actions that must be incorporated into a facility's permit.

- *National Pollutant Discharge Elimination System (NPDES) permits*. If a refinery or petrochemical facility discharges into "Waters of the United States" then it will be required to obtain one or more NPDES permits. AFPM members use water in the refining process for cooling, cleaning, and other uses. Although in some cases that water is discharged to publicly owned wastewater treatment facilities (for which a separate pretreatment permit is required), in other cases it is treated onsite and discharged to surface water bodies, necessitating an NPDES permit. In addition, unlike oil exploration operations, which are exempt, refineries and petrochemical plants are required to obtain industrial stormwater runoff permits to cover any precipitation runoff that may contain effluent. Although many states issue general industrial stormwater permits that cover many industrial facilities, negating the need for a separate individual permit, this requirement can impose additional burdens in verifying that a new facility is covered by the general permit. Finally, many refineries, petrochemical facilities, and factories are subject to the NPDES Cooling Water Intake permit requirements. Facilities with a design intake flow greater than two million gallons per day are subject to these regulations, which require implementation of often expensive and sometimes unproven technologies.

- *Section 404/Section 10 of the Clean Water Act permits and associated consultations.* If a project will impact or require dredging and filling of jurisdictional wetlands, a permit will be required from the U.S. Army Corps of Engineers (USACE). Individual permits can take years to obtain since they must address multiple issues and USACE is understaffed; this is particularly true if an Environmental Impact Statement (EIS) is required. Duplication also exists since state agencies require that permittees address issues already addressed in the USACE permit application. In addition, concurrences from multiple agencies (federal and state) may be required, even where the USACE has adequate knowledge to evaluate the issue. The current jurisdictional determination process and lack of clear jurisdiction on marginal wetlands and water features create uncertainty for industry and the public and bog down the USACE with unnecessary submittals.

- *Resource Conservation and Recovery Act (RCRA) permits*. If a refinery or petrochemical facility treats, stores, or disposes of hazardous waste, it may be required to obtain a RCRA permit. RCRA only requires owners of treatment, storage, and disposal facilities to obtain permits. For the most part, AFPM members are waste generators but do not treat, store, or dispose of the waste they generate, instead contracting with specialized treatment, storage, and disposal providers. Thus, many AFPM members may not require a RCRA permit. (But even for these members, there are still significant RCRA requirements that need to

[10] NSPS standards are required to be promulgated for existing sources once an NSPS is promulgated for new sources in the source category. *See* 42 U.S.C. §7411(d).

be followed). For those AFPM members who are required to obtain RCRA permits, the permitting process can be quite burdensome and time-consuming. EPA lists five steps in the permitting process, each of which involves several subsidiary steps. Government and citizen administrative challenges and litigation can substantially prolong the process of obtaining a permit.

- Depending on its location, a refinery or petrochemical facility may also need to obtain an access permit from the Bureau of Land Management. In addition, depending on the location and the type of project, the Endangered Species Act may also be applicable, adding to overall requirements placed on the facility.

Do any of the Federal permits overlap with (or duplicate) other federal permits or those required by State or local agencies? If the answer is yes how many permits? From which Federal agencies?

In general, federal permits that are applicable to refineries or petrochemical facilities do not "overlap" in the sense that a refinery or petrochemical facility would need to obtain a substantially similar permit from a different federal department or agency. However, delays in permitting can and do occur due to the need for EPA to coordinate with other federal entities that have a consultative role. For example, an NPDES permit may require review pursuant to the National Environmental Policy Act (NEPA). During the NEPA process, EPA will circulate a draft EIS for comment by other federal agencies, adding an additional layer of review as well as additional time to the permitting process. In addition, consultation requirements may apply pursuant to the Endangered Species Act and the National Historic Preservation Act when a permit is issued by a federal agency.

As noted above, there is also a large amount of duplication in the multiple agency concurrence process that applies in obtaining a Section 404 or Section 10 permit from the USACE. The number of required agency concurrences will vary depending on the location of the project, but in one project pursued by an AFPM member, seven concurrences were required resulting in delays where USACE had adequate knowledge to evaluate the relevant issues.

In addition, state or local governments can and do impose additional permitting burdens on refineries and petrochemical facilities. These requirements may be different from and/or more onerous than those required under relevant federal regulations. Pursuant to Clean Air Act Section 116, states are allowed to impose more stringent air quality standards and requirements than EPA.[11] Thus, a company seeking to navigate the PSD/NNSR permitting process may need to make multiple demonstrations that a planned facility or contemplated change to an existing facility is able to meet different federal/state/local standards under different operating conditions.

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[11] With certain exceptions, nothing in the Clean Air Act "shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respect control or abatement of air pollution; except that if an emission standard or limitation is in effect under a [State Implementation Plan] or [federal hazardous air pollutant standard] . . . such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent . . ." 42 U.S.C. §7416.

It is important to recognize that major environmental laws like the Clean Air Act, the Clean Water Act, RCRA, and the Safe Drinking Water Act allow for delegation of permitting duties to states and localities. That is, a state may be approved to implement federal requirements (and thus be "delegated" permitting authority) or EPA may make a determination that a state program will adequately address federal regulations and requirements (and specifically approve a state program as addressing such requirements and regulations). In practice, this means that states and localities will review, in the first instance, federally applicable requirements for a facility during its permitting process.[12] But after this occurs, EPA will also review a state's determination for sufficiency, *i.e.*, to determine whether the state permit or program requirements adequately address federal requirements.[13] This structure, while allowing state flexibility and innovation, can in some cases mean that there are at least "two bites at the permitting apple" at the state and federal level.[14] For example, additional review can be undertaken of air dispersion modeling and methodology as well as with regard to what constitutes the Best Available Control Technology (BACT) for a facility. This leads to duplication of efforts and imposes additional burdens on the permittee (who will need to re-evaluate prior determinations) as well as additional delay. In addition, local jurisdictions can also impose duplicative air and water permitting requirements.

Briefly describe the most onerous part of the permitting process.

While some states and localities have taken action to "streamline" the permitting process, one of the most onerous parts of the permitting process is the amount of time and sustained effort required to see an initial application through multiple layers of review by the permitting agency. As a practical matter, a refinery or petrochemical facility seeking to build a new facility or expand an existing facility will need to hire several outside consultants and advisors to be able to develop control options for facility or equipment being constructed or modified. This means that a considerable amount of time and expense will be incurred even *before* a company is in the position to approach a permitting agency to discuss a new project or submit an initial application for a construction permit.[15] This task is compounded by ever-changing requirements and "one-off" determinations of required analysis and permissible control technology during the permitting process.

Just determining whether and what type an air permit is required can be extremely complex and burdensome. Initially, for purposes of PSD/NNSR, a company will need to determine what is

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[12] Exceptions would lie where the federal government (EPA) or a tribe is the permitting agency, *e.g*., a facility constructed on federal or tribal land.

[13] EPA's ability to review and affect state determinations is broader in states that have delegated programs. While EPA can comment in permitting actions in both delegated and non-delegated states, the delegation agreement indicates EPA's authority over permitting decisions and the Agency may also appeal any final state decisions to the Environmental Appeals Board.

[14] The level of this review will depend on whether EPA has approved a state program or delegated authority to implement the permitting program. While EPA has authority in Clean Air Act Section 167 to seek to halt construction where a state-issued permit "does not conform" to the Clean Air Act, in delegated programs EPA can both comment on draft permits and appeal state permit decisions to the Environmental Appeals Board.

[15] "Applications are typically several hundred pages, and include rule requirements, calculations of emissions, ambient air modeling, compliance plans and schedules, and proposed monitoring, reporting, and recordkeeping requirements." U.S. Petroleum Refining, Assuring the Adequacy and Affordability of Cleaner Fuels, National Petroleum Council, June 2000 at 136.

considered to be the "project" to which requirements apply. This action itself requires reference to multi-factor guidance.[16] (Indeed, some projects never make it to the formal application phase due to the conservative nature of the PSD/NNSR process).

In particular, an especially onerous requirement is to demonstrate, via computer modeling, that emissions from a project will not "cause or contribute to" a violation of a NAAQS. Air models are inherently conservative, and permit applicants must model worst-case emissions using worst-case meteorology, plus add in the impact from nearby facilities and background levels of the pollutant(s) of interest. This series of unrealistic assumptions simply compounds the already-conservative nature of the required models, and in many cases, modeled impacts show a project causing or contributing to a NAAQS violation when, if more realistic assumptions were used, no significant impacts would occur. This can result in the possible abandonment of the project if not cost-effective. This process is becoming increasingly difficult as EPA adopts NAAQS ever closer to natural background where compliance is determined over shorter timeframes. Modeling technology has not kept pace with the new standards. EPA's required modeling tools are generally considered accurate to within a factor of two and are generally more accurate when used to predict emissions averaged over longer periods of time (*e.g.* with respect to compliance with an annual NAAQS). These tools are far less accurate in predicting emissions for shorter durations (*e.g.* 1-hour NAAQS). In practice, EPA's models often over-predict emissions from individual sources by as much as 200 percent. This inherent inaccuracy can prevent a project from moving forward or force applicants to implement unnecessary controls, adding significant costs to simply overcome the modeling error.

<u>Recommendation</u>

> An effort should be made to adopt modeling protocols that reflect variability in actual emissions, meteorology, and background concentrations. EPA should modify its current policy regarding ambient air to make it consistent with reasonably anticipated exposures for which the NAAQS are designed to protect. As a corollary, EPA should establish clear and reasonable guidance relating to what is necessary to show restricted public access, provide a means to account for emissions variability, and update the treatment of background concentrations to rely on actual conditions rather than peak background levels.

In addition to air quality modeling, a facility seeking a permit must conduct preliminary engineering to develop an approvable design for the facility and/or the air pollution control devices that will be installed. Next, preliminary outreach to permitting agencies is required in order to be able to determine whether preliminary designs will ultimately be "approvable." Following this process, adequate capital must be secured to finance construction and facilitate the ordering and fabrication of the new facility/pollution controls systems. A draft permit will ultimately be submitted to a state or local agency for review. But even after this occurs, a company will need to be actively engaged with all reviewing agencies and offices as well as be engaged in the subsequent public review process. At each of these steps, issues and questions will arise that may lead to the need to conduct additional analysis and/or make revisions to a draft permit. Ultimately, legal

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[16] *See* NSR Workshop Manual, cited *infra*, nt. 18. *See also* Defining and Redefining the "Source" for the PSD BACT Analysis, Brian Doster, EPA Office of General Counsel, February 3, 2010 at 3-15.

challenges may be filed based on the record established during the permitting process; such challenges bring with them the prospect of additional costs, uncertainty, and potential delay.

At the heart of the PSD/NNSR permitting process is the determination of BACT or Lowest Achievable Emission Rate (LAER). The application of BACT or LAER occurs through a case-by-case determination of what controls must be installed at a petroleum refinery or petrochemical facility. The starting point for this analysis is: what are the applicable NSPS standards? NSPS *must* be met for each part of the refinery or facility to which they apply.[17] But NSPS provide only a "floor level" of control and as described below, the process quickly moves on to the consideration of what other technologies (*e.g.*, those installed on recently permitted sources) could be applied to the source. This occurs through what is known as the "top down" BACT process in PSD permitting.[18]

Top down BACT consists of five steps. This process is not statutory but was defined in 1990 through a "draft" document that was never finalized but remains in widespread use today.[19] It starts with an examination of what control technologies[20] could be applied to a refinery or petrochemical facility. This is known as "Step 1." Step 2 of the process examines whether any available control technologies should be eliminated as being infeasible. The remaining options are then ranked in Step 3 on the basis of several factors including control effectiveness and energy and environmental impacts. In Step 4, a permitting agency is to evaluate the most effective controls on the basis of energy, environmental, and economic impacts. In Step 5, the most effective option that is not eliminated is considered to be BACT.[21] LAER also applies on a case-by-case basis, but in the determination of LAER, economic, energy, or other environmental factors are generally not considered.[22]

What this process means in practice is that a proposed new refinery or facility, or one undertaking a reconstruction or a modification that triggers review, will need to examine multiple control technologies for multiple pollutants for each piece of equipment that will emit air pollutants subject to BACT. Thus, the determination of BACT for a facility can be onerous, costly, exceedingly complex, and time-consuming.

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[17] In addition, all applicable NESHAPS must be met and, if a refinery or facility is located within a nonattainment area, other standards known as reasonably available control standards (RACT) will apply and be addressed through the permitting process.

[18] We do not separately address LAER requirements in our comments. In general, LAER is determined based on the most stringent control level contained in a state implementation plan or achieved in practice by "such class or category of source." *See* 42 U.S.C. 7501(3).

[19] New Source Review Workshop Manual – Prevention of Significant Deterioration and Nonattainment Are Permitting, U.S. EPA (Draft Oct. 1990). *See*: https://www.epa.gov/sites/production/files/2015-07/documents/1990wman.pdf.

[20] Air pollution control technologies do not necessarily mean physical controls installed on a facility but may "include the application of production process or available methods, systems and techniques including fuel cleaning or treatment or innovative fuel combustion techniques for control of the affected pollutant." *Id* at B-5.

[21] *Id*. at B-6.

[22] *Id*. at G-3. LAER "is not considered achievable if the cost of control is so great that a major new source could not be built or operated . . . If some other plant in the same (or comparable) industry uses that control technology, then such use constitutes evidence that the cost to the industry of that control is not prohibitive." *Id.*

Recommendation

> The Administration should consider whether the BACT process could be further tailored or limited in a manner that would result in effective control of emissions with substantially less regulatory and administrative process.

Since the greenhouse gases (GHGs) are now regulated under the Clean Air Act, a BACT analysis for GHGs is also required in cases where another air pollutant triggers review.[23] With regard to the content of such controls, EPA has generally addressed this in guidance as either constituting carbon capture and sequestration (CCS) or energy efficiency.[24]

For petroleum refinery hydrogen plants, for example, EPA has identified possible GHG controls as furnace air/fuel control, waste heat recovery and carbon dioxide (CO_2) capture and storage.[25] EPA has also detailed other possible GHG controls with regard to 41 other elements or processes used in petroleum refining.[26] Permits including GHG limitations have been issued for some facilities.[27] Energy efficiency measures can similarly cover a wide range of equipment and operations. For example, EPA has indicated that use of "inherently lower-emitting technologies" could be used, as well as technologies that "maximize the energy efficiency of the individual emissions unit."[28] In addition, EPA has required CCS to be considered as part of a BACT analysis for certain emission sources in refineries and manufacturing complexes. At bottom, however, is that GHG permitting of petroleum refineries and petrochemical facilities can introduce a wide-ranging review of various components and processes which layers upon an already lengthy and intensive process of review for conventional or "criteria" pollutants.

In this regard, EPA recently proposed a rule to revise PSD and Title V permitting regulations and to establish a significant emissions rate (SER) for GHGs.[29] EPA proposed a SER of 75,000 tpy carbon dioxide equivalent (CO_2e), but also took comment on a value between 30,000 and 75,000 tpy CO_2e.[30] AFPM submitted comments in this rulemaking, requesting that EPA set a *de minimis* threshold of at least 250,000 CO_2e.

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[23] A source is considered subject to PSD/NNSR for GHGs if the source is otherwise subject to such permitting (on the basis of emissions of "conventional" pollutants) and the source has a potential to emit GHGs equal to or greater than 75,000 tons per year. *See* 40 C.F.R. §52.21(b)(49)(v)(b). *See* also *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427 (2014).
[24] PSD ad Title V Permitting Guidance for Greenhouse Gases, Office of Air Quality Planning and Standards, U.S EPA, March, 2011 at 29.
[25] *Id.* at H-1.
[26] Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Petroleum Refining Industry, EPA Office of Air and Radiation, October 2010, Table 1.
[27] *See* Prevention of Significant Deterioration Permit for Greenhouse Gas Emissions Issued Pursuant to the Requirements at 40 CFR 52.21, U.S. Environmental Protection Agency, Magellan Processing, L.P., PSD-TX-138-GHG, Dec. 4, 2014.
[28] *Id*. at 29.
[29] Revisions to the Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas (GHG) Permitting Regulations and Establishment of a Significant Emissions Rate (SER) for GHG Emissions Under the PSD Program, 81 Fed. Reg. 68,110 (Oct. 3, 2016).
[30] *Id*. at 68,136.

Recommendation

> The Administration should review and eliminate the need to consider CCS as part of BACT determinations for refineries and petrochemical manufacturing facilities. The Administration should also set a GHG SER of at least 250,000 tpy CO_2e.

Beyond the technical aspects of the permitting process, delays and expense can also be experienced when citizen lawsuits are filed after a permit is issued. This type of litigation often challenges the technical basis of the permit and the expertise of state agencies that have been delegated authority to issue permits. Even where a permit remains valid pending resolution of the litigation, significant uncertainty can be introduced into the process of building or expanding a facility and it can take years to resolve all issues, as evidenced by projects such as the Dakota Access Pipeline.

From afar, the permitting process may be mistakenly viewed as linear and controllable (if not entirely predictable for large facilities). There is certainly an expectation by regulatory bodies that a company seeking to build a refinery or petrochemical facility or make significant alterations to an existing facility needs to allow for sufficient time, upfront, to navigate all the requirements associated with permitting. But in many cases, there are any number of variables that can change once engineering designs are developed and/or market conditions or other requirements shift. One example of this occurred several years ago when plans were suspended for construction of a refinery in Arizona after nearly a decade of work to secure necessary permits and approvals.[31] Navigating the approval process for meeting all Clean Air Act requirements (with resulting lengthy review periods and uncertainty), addressing air modeling and other requirements such as BACT and LAER (including obtaining emission reduction credits in nonattainment areas) as well as requirements to assess CCS and energy efficiency as part of reviewing GHG emissions, is thus the most onerous part of the refinery permitting process.

If you could make one change to the Federal permitting process applicable to your manufacturing business or facilities, what would it be? How could the permitting process be modified to better suit your needs?

In 2002, EPA promulgated a package of new source review (NSR) reform regulations. These regulations contained provisions that changed the test for measuring whether a significant net emissions increase occurred (allowing use of "projected actual emissions") and allowing for a longer baseline period in order to determine past emissions and therefore whether an emissions increase triggering NSR had occurred. The 2002 NSR reform package also contained other provisions providing for plantwide applicability limits (PALs) which included a simplified "facility-wide actuals" emission test under which PSD/NNSR permitting would not be triggered if the facility-wide actual emissions for a given pollutant did not increase above the PAL.

In the years since this effort, EPA has offered small "fixes" for grandfathering facilities when NAAQS are lowered and other implementation rules and guidance have been proposed or finalized designed to reduce NSR analysis and permitting burdens. But the time has come for a more

[31] *See* Impact of Environmental Regulations on Oil Refining, Senate Environment and Public Works Committee Hearing, May 12, 2004, S. Hrg. 108-506 at 304-7.

comprehensive review of the NSR program and exploration of legislative and regulatory changes to the program.

Recommendation

> The Administration should consider modifications to the existing permitting process, including revisions to the PSD/NNSR program and should consider one or more of the following recommendations:
>
> - Eliminate the need to consider emissions increases from non-modified affected emission units;
> - Allow project netting so that emissions reductions associated with a project can be considered in Step 1 of the PSD/NNSR applicability analysis;
> - Use a "potential to potential" comparison of emissions to determine whether PSD/NNSR is triggered; and/or
> - Provide a definition of "project" to address uncertainty around project aggregation.

II. Questions Concerning Regulatory Burden/Compliance

Please list the top four regulations that you believe are most burdensome for your manufacturing business. Please identify the agency that issues each one. Specific citation of codes from the Code of Federal Regulations would be appreciated.

The market policy and infrastructure factors impacting the American fuel supply have created a high-cost environment that hampers our nation's economy and threatens our critical refining infrastructure. Unfortunately, government regulation has the ability to make matters even worse. Proposed new regulations and unnecessary tightening of existing standards threaten to raise energy costs for every American consumer, with little or no environmental benefit. AFPM has included a list of Clean Air Act regulations (Appendix) that currently apply to petroleum refineries and petrochemical manufacturing facilities

AFPM supports sensible regulations as important tools to protect our well-being by providing rules for all businesses to live by. Too often, however, the U.S. regulatory regime is opaque, duplicative, or outright conflicting—creating uncertainty for businesses, shuttering good projects, and ultimately harming consumers. There are common sense regulatory reform measures that will promote transparency, good government, and sound science without comprising the environment, health, or safety. Far from undermining sensible regulation, such reforms can work with us to deliver better results for less cost.

The following are four regulations AFPM believes are most burdensome for our members and their business operations.

1. Renewable Fuel Standard (RFS) – EPA, 40 CFR Part 80, Subpart M

   One of the biggest challenges American fuel manufacturers are experiencing today involves the regulatory conflicts and problems with the size and scope of EPA's RFS program. The

RFS is an unworkable policy that disadvantages consumers, drives up costs, and fails to achieve its purported goals.

The Energy Independence and Security Act (EISA) expanded the RFS to include a *de facto* mandate for 15 billion gallons of corn ethanol by 2015. EISA also established an advanced biofuels mandate that includes three subcategories: cellulosic biofuels, biomass-based diesel, and "other advanced." "Other advanced" biofuels have regulatory significance because the statutory sum of cellulosic biofuels and biomass-based diesel is less than the total advanced biofuels requirement and must be made up with ethanol derived from sugar, additional cellulosic biofuels, or additional biomass-based diesel. Under EISA, the total renewable mandate will increase to 36 billion gallons by 2022 unless annual EPA waives or revises the annual mandates.

AFPM opposes government mandated biofuel blending, which distorts the free market's efficient allocation of transportation fuels and disadvantages consumers. The statutory RFS provisions contain an aggressive schedule for mandating the use of a large amount of ethanol. Declining gasoline demand and increasing ethanol mandates under the RFS threaten our nation's fuel supply. Moving beyond the E10 blendwall[32] is not feasible because higher ethanol blends are not suitable for widespread distribution given the incompatibility of these blends with the existing fleet of motor vehicles, small engines, marine engines, and fuel distribution infrastructure.

The RFS program also conflicts with several regulations. For example, corporate average fuel economy (CAFE) standards are made more difficult to meet given the lower energy content of gasoline/ethanol blends. Fuel, engine, and infrastructure modifications to meet these divergent regulatory objectives will come at a considerable cost and will likely lead to higher consumer prices.

Recommendation

- EPA should use realistic projections of the demand for gasoline/ethanol blends and E85, and for the production of cellulosic biofuel. The Agency should additionally use its waiver authority to reduce the advanced, cellulosic, and total renewable fuel obligations in order to ensure the overall mandate for renewable fuel does not exceed the E10 blendwall. In order to maintain a market for ethanol-free gasoline, EPA should not set an RFS mandate that would cause the average mandated ethanol content to exceed 9.7 percent of projected gasoline demand.
- EPA should move the existing point of obligation to the position holder at the blending rack. This would make the RFS more equitable by leveling the playing field between refiner and large exempt blenders. AFPM petitioned EPA to move the point of obligation on August 4, 2016. EPA subsequently proposed a denial of the petition on November 22, 2016, and closed the comment period on February 22, 2017.
- EPA should work with Congress to reform and ultimately end this unworkable program.

[32] "E10" refers to a blend of 90 percent gasoline and 10 percent ethanol.

2. <u>Risk Management Plan (RMP) – EPA, 40 CFR Part 68</u>

In August 2013, following the explosion of the fertilizer plant in West, Texas, President Obama issued Executive Order (EO) 13650, entitled "Improving Chemical Facility Safety and Security." The EO directs the federal government to improve operational coordination with state and local partners, improve federal agency coordination and information sharing, modernize policies, regulations and standards, and work with stakeholders to identify best practices in chemical facility safety and security. Using this EO as justification, EPA proposed significant modifications to the existing RMP regulations.

EPA's RMP revision proposal relied on a cost-benefit analysis that strained credibility and could ultimately compromise safety by limiting the ability of companies to hire qualified auditors and requiring resource-intensive inherently safer technology analysis that provides little value after a facility is already built. Furthermore, EPA did not respect the jurisdictional lines between itself and Occupational Safety & Health Administration (OSHA) on these issues, as OSHA has primary jurisdiction over the "inside the fence line" requirements that EPA relies on to make its cost-benefit calculation work.

Specifically, AFPM members have significant concerns surrounding the new requirements to share security-sensitive information with emergency responders and the public, application of inherently safer technology assessments, third-party audits, and the inability to conduct representative sampling when performing a compliance audit.

As such, AFPM and five other industry associations filed a petition for reconsideration with EPA and a petition for review with the U.S. Court of Appeals for the District of Columbia Circuit. The coalition is challenging aspects of the rule that compromise security and fail to enhance safety. The petition urges EPA to seek further public comment on various issues surrounding the rule, such as investigators' recent finding that arson caused the fire that led to the EO and the subsequent rulemaking. In addition, the petition asks EPA to seek feedback on changes in the final rule that expanded provisions for disclosure of facility data and the scope of auditing requirements and whether the rule's independent audit and safer technologies analysis provisions are justified. In response to the petition, EPA Administrator Scott Pruitt agreed to delay the rule's effective date from March 21 to June 19 in order to reconsider the regulation.

Moreover, the RMP rules significantly overlap and are redundant to the OSHA Process Safety Management Rules in 29 C.F.R. §1910.119. This overlap/redundancy can lead to duplicative and inconsistent regulations. It can also lead to differing interpretations between OSHA and EPA. AFPM members believe that this is an area that is especially ripe for reform and revision.

3. <u>Ozone NAAQS – EPA, 40 CFR Part 50; 40 CFR Part 58</u>

Under the Clean Air Act, EPA must review NAAQS for criteria pollutants at least every five years and revise them "as may be appropriate." Primary NAAQS must be set at a level "requisite to protect the public health" with "an adequate margin of safety." Secondary NAAQS must specify a level of air quality "requisite to protect the public welfare from any known or anticipated adverse effects." In a final rule promulgated on October 26, 2015, EPA lowered the primary and secondary ozone NAAQS to 70 part per billion (ppb) from a standard of 75 ppb set in 2008.

On December 23, 2015, AFPM and numerous industry associations filed petitions for review in the U.S. Court of Appeals for the D.C. Circuit. AFPM's primary concern with EPA's rule is the ability to achieve the new standards due to background ozone levels. AFPM continues to advocate for a legislative solution on ozone that would provide meaningful relief for companies faced with more stringent permitting requirements and regulations as a result of the new standard, but the Administration should also consider what avenues may exist for regulatory relief, including with respect to associated implementation rules (such as the Exceptional Events Rule.[33]

EPA's decision to lower the ozone standard from 75 parts ppb to 70 ppb will force many counties out of attainment with the standard, preventing new construction and economic growth, placing jobs at risk. In this regard, the current five year review cycle for NAAQS does not provide enough opportunity for full implementation of preexisting NAAQS. The Administration can ease the burden on states and businesses by seeking to realign non-attainment designations for the 2015 ozone NAAQS to 2025 to allow for full implementation of the 2008 ozone NAAQS as well as for implementation of other federal and state rules that will reduce ozone formation.[34] This approach will allow state resources to be allocated more effectively and reduce resulting economic hardship, while still maintaining intended air quality improvements.

In the long term, the Administration should take steps to increase the transparency and quality of data EPA relies on for NAAQS rulemakings. For instance, EPA should find a way to make the underlying data from health studies available without compromising personally identifiable information so that scientists can independently verify the veracity of the data. In addition, EPA should reform the Clean Air Scientific Advisory Committee (CASAC) to ensure scientists do not have conflicts of interest, such as receiving federal money to conduct the studies the government uses to justify regulations as well as increasing the "diversity" of CASAC members to include qualified professionals within industry, consulting, and state environmental agency backgrounds.

Finally, EPA should issue all implementation, regulations, and guidance at the same time it promulgates any new NAAQS. For example, in 1997, EPA issued a fine particulate matter ($PM_{2.5}$) NAAQS, but issues with modeling and measuring the pollutant caused EPA to institute a "surrogate" policy under which a source used a different pollutant (coarse particulate matter (PM_{10})) for source modeling and other implementation requirements. This surrogate policy was in effect for nearly 15 years, demonstrating the Agency was not fully ready to regulate $PM_{2.5}$. Recently, with the adoption of 1-hour standards for nitrogen dioxide (NO_2) and sulfur dioxide (SO_2), EPA must scramble to piece together patchwork implementation rules and modeling/permitting guidance because there is no technically feasible pathway to implement the standard. The Agency should be required to not only defend and justify any new or

[33] Treatment of Data Influenced by Exceptional Events, 81 Fed. Reg. 68,216 (Oct. 3, 2016).

[34] AFPM recognizes that current provisions of the Clean Air Act, federal and state regulations and judicial precedent may present issues in fully reforming the NAAQS process as described. These comments are meant to suggest a general approach towards reform; we would encourage the Administration to explore its available options to do so.

modified NAAQS upon issuance in a transparent manner, but to provide a technically and economically feasible implementation plan in one package, not several years later which often drives permitting and investment uncertainty.

4. Refinery Sector Rule (RSR) – EPA, 40 CFR Part 60, Subparts J and Ja; 40 CFR Part 63, Subparts CC and UUU

Under the Clean Air Act, EPA is required to regulate HAPs from "major" sources (*i.e.*, those that emit 10 tpy or more of a listed pollutant, or 25 tpy or more of a combination of pollutants). EPA must develop standards for HAPs based on the maximum achievable control technology (MACT) used at the best-controlled facilities within an industry. The petroleum refining and petrochemical industries are subject to a number of MACT standards.

EPA also must develop and implement a program for assessing risks remaining after facilities implement MACT standards (*i.e.*, residual risk), and must issue regulations to reduce residual risks to protect the public health with an "ample margin of safety" without consideration as to the costs of the control mechanisms. The residual risk provisions also require EPA to prevent "adverse environmental effects," but EPA must also consider costs, energy, safety, and other relevant factors. If necessary, EPA must issue risk-based regulations within eight years after the promulgation of the MACT standard.

After a previous effort to complete a refinery residual risk rule was withdrawn in 2009, EPA completed its residual risk analysis and finalized the Refinery Sector Rule on December 1, 2015,[35] and subsequently clarified the compliance dates in a second final rule published on July 13, 2016.[36] AFPM supported EPA's process to evaluate the residual risk remaining after full implementation of the refinery MACT rules. As demonstrated by EPA's analysis for this rule, refinery emissions do not pose a significant residual risk to the public. But despite this fact, EPA included significant new compliance requirements in the December 2015 rule. AFPM does not believe that the additional regulation of these sources is authorized under the Clean Air Act because there was neither a residual risk nor "adverse environmental effects" that needed to be addressed. Further, much of the rulemaking eliminated various allowances for emissions during startups, shutdowns and malfunctions as a result of EPA's overly broad interpretation of *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008).

In response, AFPM and the American Petroleum Institute (API) filed a joint petition for review in the D.C. Circuit and administrative petitions for reconsideration of EPA's refinery sector residual risk rule as a number of issues need to be clarified. A collection of environmental groups also filed petitions for review and reconsideration, seeking to tighten EPA's emissions standards for flares and pressure relief devices. The lawsuit has been placed in abeyance while EPA considers the pending petitions for reconsideration.

On June 16, 2016, EPA granted the environmental groups' petitions for reconsideration and requested comment on the following aspects of the final rule: 1) work practice standards for

[35] Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards, 80 Fed. Reg. 75,178 (Dec. 1, 2015).
[36] National Emission Standards for Hazardous Air Pollutant Emissions: Petroleum Refinery Sector Amendments, 81 Fed. Reg. 45,232 (July 13, 2016).

pressure relief devices and emergency flaring events, including the assessment of risk from the implementation of these standards; 2) alternative work practice standards for delayed coking units employing a water overflow design; and 3) the provision allowing refineries to reduce the frequency of fenceline monitoring at sampling stations that consistently record benzene concentrations below 0.9 micrograms per cubic meter. While these issues go beyond those raised by AFPM and API in their petitions for reconsideration, the letter granting reconsideration stated that EPA may grant reconsideration of additional issues in the future. AFPM and API submitted comments opposing the environmental groups' petition and EPA should reject these petitions for reconsideration and retain the challenged provisions

How could regulatory compliance be simplified within your industry or sector?

There are effectively two routes to simplify regulatory compliance: (1) the permitting process can be further streamlined to enable the productive investment of capital in refinery and petrochemical facility construction and expansion; or (2) the substantive requirements of the permitting process can be changed.

With regard to the first route, pursuant to 42 U.S.C. § 15952, at the request of a Governor of a State, EPA may enter into a refinery permitting cooperative agreement with the State for streamlining the permitting process. This law contemplates that EPA can accept a consolidated application for all EPA permits "to the extent consistent with other applicable law" and enter into memoranda of agreement with other federal agencies and states to coordinate consideration of refinery applications. It is not clear, however, how well this law has worked and whether the streamlined process it contemplated could be further improved. Consideration should be given to examining the impact of this law, along with any deficiencies in the ability to utilize consolidated applications under the intended process.

With regard to the second route, consideration should also be given to reform of the substantive PSD/NNSR permitting requirements. The lengthy process needed to obtain permits and address multiple regulatory requirements on a case-by-case basis acts as a strong disincentive to investing in new and modified facilities. As referenced above, it has been fifteen years since EPA initiated a wide-ranging effort to reform the NSR program and while some changes to the program have been helpful, a wide-ranging review of the current program is necessary given the numerous requirements that have been generated affecting refineries and petrochemical facilities over the past decade. AFPM's specific recommendations for reform are contained at the end of Section 1.

Please provide any other specific recommendations, not addressed by the questions above, that you believe would help reduce unnecessary Federal agency regulation of your business.

EPA recently published the Hazardous Waste Generators Improvement Rule. The rule is helpful in some respects but imposes additional burdens in others. For instance, it causes waste generators who violate even one "Condition for Exemption" from permitting to be treated as waste treatment, storage, and disposal facilities requiring RCRA permits. Violation of a single minor condition can therefore mean that an otherwise exempt facility must obtain a RCRA permit and can be cited for violations of numerous regulations and permit conditions. This regulatory change contradicts the clear intention of Congress that RCRA permits not be required of hazardous waste generators who do not treat, store, or dispose of the waste.

With respect to the Clean Water Act and NPDES permitting, EPA is currently undertaking a study to determine whether to revise the petroleum refining effluent limit guidelines (ELGs) for NPDES permits. As a first step, AFPM urges EPA and the Administration to consider whether new regulations are necessary or beneficial before burdening industry with an extensive information collection request (ICR). EPA has stated that it is investigating two theories: (1) whether there has been an increase in loadings to refinery wastewater treatment plants resulting from increases in heavy Canadian crude feedstock; and (2) whether there are increase loadings to refinery wastewater treatment plants as a result of the installation of air pollution control equipment (*e.g.* FCCU scrubbers). The premise of these theories is partially based on Toxics Release Inventory data that industry submits on an annual basis over the past 30 years. But these data can often be misinterpreted. This data, when combined with data from the Permit Compliance System (PCS), perpetuates the error, thereby skewing the statistics and leading to erroneous conclusions.

Over the past several decades, AFPM members have invested billions of dollars in technologies to modernize their wastewater treatment facilities to meet the Total Maximum Daily Load (TMDL) developments, NPDES permit revisions (every 5 years at the minimum), and water quality based effluent limits (WQBEL). Therefore, AFPM requests that EPA study the already available data further (eliminating the erroneous information found in the Toxics Release Inventory) and identify the gaps that are not covered by TMDL and WQBEL before embarking on another data collection effort through the ICR that EPA is preparing to issue. This would better utilize scarce agency resources as well as reduce unnecessary burdens on industry. Further, AFPM believes that reviewing available data, as recommended above, will support a conclusion that the existing refinery ELGs are sufficient to meet the intent and purpose of effluent limit and water quality guidelines in the Clean Water Act.

Finally, AFPM encourages the Administration to work with Congress to bring long overdue reforms to the regulatory process. Reforms to increase transparency, enhance the quality of data used in rulemaking, and increase the accountability of the Administration and Congress to the American people are important goals that will promote economic opportunities while protecting health, safety, and the environment.

APPENDIX:
Petroleum Refining/Petrochemical Manufacturing: Applicable Regulations

PETROLEUM REFINING/PETROCHEMICAL MANUFACTURING: APPLICABLE REGULATIONS		
Name	**Code of Federal Regulation (CFR) Cite**	**Initial Effective Date(s)**
CLEAN AIR ACT (CAA)		
National Ambient Air Quality Standards (NAAQS)	40 CFR Parts 50, 58	1971
New Source Performance Standards (NSPS)	40 CFR Part 60	various
Subpart A: General Provisions	40 CFR Part 60	mid 1970s
Subpart Cd: 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 9/18/17	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 I: Hot Mix Asphalt Facilities	40 CFR Part 60	1986
Subpart J: Petroleum Refineries	40 CFR Part 60	1978
Subpart Ja: Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After 5/1/07	40 CFR Part 60	2008
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) for Construction, Reconstruction or Modification between 1/5/81 and 11/7/06	40 CFR Part 60	1983
Subpart VVa: Equipment Leaks of VOC in SOCMI for Construction, Reconstruction or Modification after 11/7/06	40 CFR Part 60	2007
Subpart XX: Bulk Gasoline Terminals	40 CFR Part 60	1983
Subpart GGG: Equipment Leaks of VOC in Petroleum Refineries Constructed, Reconstructed or Modified between 1/4/83 and 11/7/06	40 CFR Part 60	1984
Subpart GGGa: Equipment Leaks of VOC in Petroleum Refineries Constructed, Reconstructed or Modified after 11/7/06	40 CFR Part 60	2007
Subpart III: VOC Emissions for SOCMI Air Oxidation Unit Processes	40 CFR Part 60	1990
Subpart NNN: VOC Emissions 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
Subpart IIII – Stationary Compression Ignition Internal Combustion Engines	40 CFR Part 60	2006
Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines	40 CFR Part 60	2008
Subpart KKKK – Stationary Combustion Turbines	40 CFR Part 60	2006
Subpart OOOO – Crude Oil and Natural Gas Production, Transmission and Distribution for Construction, Modification, or Reconstruction between 8/23/11 and 9/18/15	40 CFR Part 60	2012
Subpart OOOOa – Crude Oil and Natural Gas Production, Transmission and Distribution for Construction, Modification, or Reconstruction after 9/18/15	40 CFR Part 60	2016

Subpart TTTT – Greenhouse Gas Emissions for Electric Generating Units	40 CFR Part 60	2015
Subpart UUUU – Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units	40 CFR Part 60	2015
Risk Management Plans	40 CFR Part 68	1994
National Emission Standards for Hazardous Air Pollutants (NESHAPs)		
Part 61		
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 L – Benzene Emissions from Coke By-Product Recovery Plants	40 CFR Part 61	1989
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
Acid Rain Provisions	40 CFR Parts 72, 73, 75, 77, 78	1995, 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
Spill Prevention, Control, and Countermeasures (SPCC) Requirement for Oil Storage	40 CFR Part 112	mid 1970s
Designation of Hazardous Substances	40 CFR Part 116	1978
Notice of Discharge of a Reportable Quantity	40 CFR Part 117	late 1970s
Great Lakes Water Quality Guidance	40 CFR Parts 9, 122. 123. 131. 132	early 1995
Toxic Pollutant Effluent Standards	40 CFR Part 129	1977
Water Quality Standards for Toxic Pollutants	40 CFR Part 131	2/5/93

General Provisions for Effluent Guidelines and Standards	40 CFR Part 401	1974
General National Pretreatment Standards	40 CFR Part 403	early 1980s
Effluent Guidelines and Categorical Pretreatment Standards for Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR Part 414	1987
Effluent Guidelines and Categorical Pretreatment Standards for the Petroleum Refining Point Source Category	40 CFR Part 419	late 1970s - mid 1980s
Greenhouse Gas Reporting Program		
Petrochemical Production	40 CFR Part 98, Subpart X	2009, 2017
Petrochemical Refineries	40 CFR Part 98, Subpart Y	2009, 2017
NPDES		
EPA Administered Permit Programs	40 CFR Part 122	1983
State Permit Programs	40 CFR Parts 121, 123-125	1971-1983
OIL POLLUTION ACT (OPA)		
Natural Resource Damage Assessments (MRDA) under National Oceanic and Atmospheric Administration	15 CFR Part 990	early 1996
Oil Pollution Prevention; Non-Transportation-Related Onshore Facilities	40 CFR Parts 112	1973
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
Subpart H: 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
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: SOCMI	40 CFR Part 63	1994
Subpart G: SOCMI 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
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

Subpart OO: NESHAP for Tanks – Level 1	40 CFR Part 63	1996
Subpart PP: NESHAP for Containers	40 CFR Part 63	1996
Subpart TT: NESHAP for Equipment Leaks – Control Level 1		1999
Subpart UU: NESHAP for Equipment Leaks – Control Level 2 Standards		1999
Subpart WW: NESHAP for Storage Vessels (Tanks) – Control Level 2		1999
Subpart UUU: NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units		2002
Subpart FFFF: NESHAP for Miscellaneous Organic Chemical Manufacturing		2003
Subpart YYYY: NESHAP for Stationary Combustion Turbines		2004
Subpart ZZZZ: NESHAP for Stationary Reciprocating Internal Combustion Engines		2004
Subpart DDDDD: NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters		2011
Subpart LLLLL: NESHAP for Asphalt Processing and Asphalt Roofing Manufacturing		2003
Subpart BBBBBB: NESHAP for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities		2008
Subpart CCCCCC: NESHAP for Gasoline Dispensing Facilities		2008
Subpart JJJJJJ: NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources		2011
Subpart AAAAAAA: NESHAP for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing		2009
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 Operation sand Reactor Processes	40 CFR Part 52	1993
Tank Truck Gasoline Loading Terminals	40 CFR Part 52	1977
Fuels		
Registration Requirements	40 CFR Part 79	1975,1994, 1996
Reid Vapor Pressure Limitation	40 CFR Part 80	late 1980s
Oxygenated Fuel Requirement	40 CFR Part 80	1992
Low Sulfur Diesel	40 CFR Part 80	1993, 2006
Detergent Gasoline	40 CFR Part 80	1994
Lead Phaseout	40 CFR Part 80	12/31/95
Reformulated Gasoline	40 CFR Part 80	1995
Gasoline Sulfur	40 CFR Part 80	2000, 2014
Gasoline Toxics/Benzene	40 CFR Part 80	2001, 2007
Renewable Fuel Standard (RFS 1)	40 CFR Part 80	2007
Renewable Fuel Standard (RFS 2)	40 CFR Part 80	2010
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

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
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 Part 716	1986
Premanufacture Notification (and Exemptions)	40 CFR Parts 720, (723)	1983 (1995)
Significant New Uses	40 CFR Part 721	1988
Chromium Comfort D Cooling Towers	40 CFR Part 749	1990

Rules for Controlling Polychlorinated Biphenyls	40 CFR Part 761	1979
Asbestos-Containing Products Labeling Requirements	40 CFR Part 763	1979