



Environmental Regulation and Agriculture

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Summary

Some in Congress have expressed concern about recent environmental regulations and administrative initiatives. Criticism from lawmakers and industry leaders is primarily focused on environmental regulations promulgated by the Environmental Protection Agency (EPA). Some claim that EPA is overreaching its regulatory authority in several environmental arenas. The agriculture community has been vocal in its concerns, contending that EPA appears to be focusing its regulatory efforts on agriculture. Environmentalists, on the other hand, are encouraged by some of EPA's regulatory efforts, claiming that some agriculture operations do pose a public health and environmental risk and should be regulated.

A healthy agriculture industry and a healthy environment are both important to the nation. However, agricultural production can have varying impacts on the environment. The use of both natural resources and synthetic inputs in agricultural production can sometimes create a negative impact on human health and the surrounding ecosystem. The magnitude of these environmental impacts varies widely across the country and changes over time. Given the agricultural sector's size and potential to affect its surrounding environment, there is interest in tightening environmental policies while also maintaining an economically viable industry. Most recognize the agriculture community's efforts to protect natural resources while striving to maintain a sustainable and abundant food supply.

The current federal response to environmental issues associated with agriculture is viewed as being both restrictive and supportive. Traditionally, most farm and ranch operations have been exempt or excluded from many environmental regulations. The challenges associated with regulating numerous crop and livestock operations can be cost-prohibitive for government regulators, and environmental policies have historically focused on large industrial sources such as factories and power plants. Therefore, much of the current farm policy addressing environmental concerns is in the form of economic incentives to encourage beneficial production practices.

Recent regulatory activity has generated widespread interest in the depth of EPA's regulatory authority. The 112th Congress continues to evaluate EPA and other federal agencies' roles in regulating environmental protection. Other broad options for Congress besides general oversight include review under the Congressional Review Act, amending current law to modify a regulating agency's authority, introducing freestanding legislation, or offering an amendment on an agency's appropriation bill that prevents funds from being used for specific actions.

This report covers select environmental regulations that could affect agriculture. The majority of environmental regulations are administered by EPA, though not all. In some cases, agriculture is the direct or primary focus of the regulatory actions. In other cases, the agriculture sector is one of many affected sectors. Of particular interest to the sector are regulatory actions affecting air, water, energy, and chemicals. Issues associated with air (e.g., dust and emissions) and water resources (e.g., fertilizer and nutrient run-off) are a primary focus of many regulations affecting agriculture because of agriculture's potential impact to both. Changes in energy policy, namely bioenergy, have recently become important to many in the agricultural industry based on the growing influence of corn-based biofuel production. Finally, the risks associated with agricultural chemical use and possible impacts on human health and the environment have led to recent federal regulatory reviews of chemical fertilizer and pesticide use.

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Introduction

A healthy agriculture industry and a healthy environment are both important to the nation. However, agricultural production can have varying impacts on the environment. The use of both natural resources (e.g., soil and water) and synthetic inputs (e.g., fertilizers and pesticides) in agricultural production can sometimes create a negative impact on the surrounding ecosystem. For example, soil erosion, farm chemical runoff, and overgrazing can affect water and air resources. Converting grassland prairies and wetlands to crop production can impact wildlife populations. The magnitude of these environmental impacts varies widely across the country and changes over time.

The federal response to agriculture's impact on the environment can be viewed at opposite ends of a spectrum: incentivizing sustainable production (carrot) versus requiring it through regulation (stick). While most within the agriculture community prefer the "carrot" approach, there is an increasing focus on the "stick" because of recent federal regulatory action. Current federal environmental policies both restrict and encourage certain production practices. The ultimate mix of policy instruments depends on the nature of the resource issue and the information available on the linkages between farming activities and the environmental resources.

Traditionally, most farm and ranch operations have been exempt or excluded from many federal environmental regulations. Attempting to regulate numerous individual crop and livestock operations can be cost-prohibitive for government regulators, and environmental policies have historically focused on large industrial sources such as factories and power plants. Therefore, much of the current federal farm policy addressing environmental concerns is in large part voluntary; that is, it seeks to encourage agriculture producers to adopt conservation practices through economic incentives. Most environmental regulation, in terms of permitting, inspection, and enforcement, is done by state and local governments, typically based on federal EPA regulatory guidance. Many point out that the relative number of environmental regulations affecting agriculture is small compared to other industries. However, given the agricultural sector's size in the landscape¹ and its potential to affect its surrounding environment, there is interest in both tightening environmental policies and also maintaining an economically viable agriculture industry.

The U.S. Environmental Protection Agency (EPA) is the primary federal authority for administering environmental protection policies, while the U.S. Department of Agriculture (USDA) is the primary federal authority for incentivizing agricultural production. USDA provides both educational outreach and technical and financial assistance opportunities for producers to implement environmentally sustainable practices.² While many of these voluntary programs and policies have been in place for decades and have had considerable success, some question whether a strictly voluntary approach to agricultural conservation generates enough environmental gains.³ EPA, on the other hand, has recently received criticism from lawmakers

¹ A total of 1.9 billion acres of land and water cover the contiguous 48 states, of which 71% is non-federal rural land (nearly 1.4 billion acres). Non-federal rural lands are predominantly rangeland (409 million acres), forest land (406 million acres), and cropland (357 million acres). Source: USDA, NRCS, *2007 National Resources Inventory*, Summary Report, Washington, DC, December 2009, p. 6, http://www.nrcs.usda.gov/technical/NRI/2007/2007_NRI_Summary.pdf.

² For more information, see CRS Report R40763, *Agricultural Conservation: A Guide to Programs*.

³ Michelle Perez, Craig Cox, and Ken Cook, *Facing Facts in the Chesapeake Bay*, Environmental Working Group, (continued...)

and industry leaders for appearing to focus regulatory efforts on agriculture.⁴ Some claim EPA has overreached its regulatory authority.⁵ Some in the agriculture community have been vocal in their displeasure with recent EPA regulatory proposals and the costs associated with providing a more sustainable production system.⁶

These criticisms are reflected in recent legislative proposals that restrict or prohibit certain regulatory actions.⁷ Beyond the criticism of individual regulations, there also are calls for broad regulatory reforms, for example, to reinforce the role of economic considerations in agency decision making or to increase Congress's role in approving or disapproving regulatory decisions. The 112th Congress will likely continue to give attention to EPA's and other federal agencies' roles in regulating environmental protection. Both the Senate and House Committees on Agriculture have shown particular interest in EPA's actions and conducted oversight hearings on regulatory impacts to agriculture during the 111th Congress, an activity that has continued in the 112th Congress.⁸

Report Content and Caveats

This report covers select federal environmental regulations that could affect agriculture.⁹ The report is intended to provide the background, status, and issues related to environmental regulations or initiatives possibly affecting agriculture. Many of these issues are commonly referred to as being of concern to agriculture based on media and industry reports. Their inclusion in this report is not intended to suggest or imply that the regulation or action has either a beneficial or harmful effect on agriculture or to what degree. Similarly, regulatory actions not included in this report do not indicate the lack of potential impact on the agriculture sector.

This report only addresses federal regulatory actions. In many cases, constraints on agricultural production to reduce pollution emissions arise at the state level in response to local concerns.

(...continued)

September 2009, <http://www.ewg.org/files/chesapeake-bay-pollution.pdf>.

⁴ Examples of congressional press releases and letters regarding EPA may be found here: Rep. Frank Lucas - http://www.house.gov/htbin/blog_inc?BLOG,ok03_lucas,blog,999,All,Item%20not%20found,ID=100305_3660,TEMPLATE=postingdetail.shtml; Rep. Collin Peterson - <http://collinpetererson.house.gov/press/111th/Peterson%20calls%20for%20bipartisan%20action%20against%20the%20EPA.html>; Sen. Inhofe and Sen. Snowe - <http://epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs>; and Sen. Chambliss and Sen. Roberts - http://chambliss.senate.gov/public/index.cfm?p=PressReleases&ContentRecord_id=f7607094-43ca-45c6-a789-3f91e18e1cca&ContentType_id=5c81ba67-be20-4229-a615-966ecb0ccad6&Group_id=29a81778-8944-46e0-a550-9d034534e70a.

⁵ The Wall Street Journal, "The EPA Permitterium," editorial, November 22, 2010.

⁶ American Farm Bureau, "EPA's Regulatory Diet is Unhealthy for America," press release, February 2011, <http://fb.org/index.php?fuseaction=newsroom.agenda>.

⁷ For example, the House-passed long-term continuing resolution H.R. 1, which is discussed further below. For more information, see CRS Report R41698, *H.R. 1 Full-Year FY2011 Continuing Resolution: Overview of Environmental Protection Agency (EPA) Provisions*.

⁸ For example, U.S. Congress, Senate Committee on Agriculture, Nutrition, and Forestry, *Oversight Hearing to Examine the Impact of EPA Regulation on Agriculture*, 111th Cong., 2nd sess., September 23, 2010 and U.S. Congress, House Committee on Agriculture, *Public Hearing to Review the Impact of EPA Regulation on Agriculture*, 112th Cong., 1st sess., March 10, 2011.

⁹ For additional information regarding EPA regulations beyond those affecting agriculture, see CRS Report R41561, *EPA Regulations: Too Much, Too Little, or On Track?*.

State and local regulations are not specifically included in this report, but may be discussed generally where appropriate. Actions considered voluntary or in response to regulatory actions are also not included. This means that many USDA programs and initiatives, which offer funding to agricultural producers to preclude the need for environmental regulation, are not discussed in this report.

The majority of the regulations discussed in this report are administered by EPA, though not all. In some cases, agriculture is the direct or primary focus of the regulatory actions. In other cases, agriculture is one of many affected sectors. In many cases, for a regulation to become effective, EPA rules must be adopted by states to which the program has been delegated (e.g., most environmental permitting programs are delegated to qualified states). Moreover, many states require that the state legislature review new regulations before the new rules would take effect. The general regulatory development and compliance process can be tedious and complex. In some cases, the promulgation and implementation of regulations may take years.¹⁰ In the case of some environmental regulations, the agencies must adhere to court-ordered deadlines.¹¹

General Options for Congress

Most congressional committees conduct oversight hearings on agency activities and programs throughout the legislative session. Given the interest in the issues described in this report, it is likely that oversight hearings will continue in the 112th Congress. If Congress decides to explore the way federal agencies regulate environmental issues, there are at least four sets of options available.

One option is the Congressional Review Act (CRA).¹² The CRA establishes special congressional procedures for disapproving a broad range of regulatory rules issued by federal agencies. Before any rule covered by CRA can take effect, the federal agency that promulgates the rule must submit it to Congress. If Congress passes a joint resolution disapproving the rule under procedures provided by the act, and the resolution becomes law, the rule cannot take effect or continue in effect. Also, the agency may not reissue either that rule or any substantially similar one, except under authority of a subsequently enacted law. The path to enactment of such a resolution could be a steep one and still subject to presidential veto. Overriding a veto requires a two-thirds majority in both the House and Senate.¹³

Another, more comprehensive option would be to amend current law to modify the regulating agency's authority. Bills using this approach in connection with some environmental regulatory issues were introduced in the 111th Congress but were not enacted.¹⁴ While this might be the

¹⁰ Some regulations do not become effective immediately. In some cases, the regulation takes effect over time or gradually expands to affect more individuals. Virtually all major EPA regulatory actions are subjected to court challenge, which also delays the implementation.

¹¹ Court-ordered dates for proposed or promulgated regulations may change. It is not uncommon for EPA to request extensions of time, often due to the need to analyze extensive comments.

¹² 5 U.S.C. §§ 801-808.

¹³ For additional information on the Congressional Review Act, see CRS Report RL31160, *Disapproval of Regulations by Congress: Procedure Under the Congressional Review Act*.

¹⁴ For example, the House passed H.R. 2454, and the Senate Environment and Public Works Committee reported S. 1733. These bills would have amended the Clean Air Act (CAA) to establish an economy-wide cap-and-trade program for greenhouse gases (GHGs) and HFCs, preserved EPA's authority to regulate GHG emissions, and required new standards for uncapped major sources of GHGs, among other things.

preferred option by some, including the Administration, the challenges associated with crafting the specifics of a bill acceptable to a majority could remain difficult.¹⁵ From an agricultural perspective, this option may be even more challenging. While committees may exert certain oversight powers, there are jurisdictional issues to be considered.¹⁶ In many cases environmental laws with potential to affect agriculture originate outside of the House and Senate Agriculture Committees. Although the issues associated with agriculture could still be of interest within other committees, it might not be a central focus. On the other hand, agricultural interests in Congress have achieved some previous success on cross-jurisdictional issues.¹⁷

To provide a more detailed response to the issue than what might be permitted under the CRA, a third option would be to introduce freestanding legislation. By specifically identifying issues and prescribing regulatory direction, stand-alone legislation may address many of the issues with the current regulatory approach but still face challenges similar to those of amending existing law. While freestanding legislation could also amend existing law, this option may be designed to be more acceptable to Members willing to consider a delay of regulatory action, as opposed to overturning or blocking regulatory action altogether.¹⁸ In effect, freestanding legislation could buy time for additional action to be taken by Congress.

Another option that Congress could consider is to include an amendment on the agency's appropriations bill that prevents funds from being used for specific actions. This was done in the FY2010 Interior, Environment, and Related Agencies Appropriations Act,¹⁹ in which provisions restricted or prohibited the use of EPA funds for certain climate change regulatory activities affecting livestock operations. Because neither the House nor the Senate Appropriations Committees reported FY2011 EPA appropriations in the 111th Congress and these provisions from FY2010 appropriations were carried forward, the restricting provisions remain in effect under the current continuing resolution, which expires April 8, 2011.²⁰ Additional restrictions were present in the House-passed full-year continuing resolution (CR) H.R. 1. As passed by the House, the bill included specific funding levels for a number of EPA accounts and activities. It also contained more than 20 provisions restricting or prohibiting the use of appropriated funds to implement various regulatory activities under the EPA's jurisdiction—including many discussed in this report. On March 9, the Senate failed to approve House-passed H.R. 1 and subsequently also did

¹⁵ For example, amending the CAA to revoke some existing regulatory authority as it pertains to GHGs while establishing new authority designed specifically to address their emissions is the approach advocated by the Administration and, indeed, by many participants in the climate debate regardless of their position on EPA's regulatory initiatives. For additional discussion, see CRS Report R41212, *EPA Regulation of Greenhouse Gases: Congressional Responses and Options*.

¹⁶ For additional information on committee jurisdiction, see CRS Report 98-175, *House Committee Jurisdiction and Referral: Rules and Practice* and CRS Report 98-242, *Committee Jurisdiction and Referral in the Senate*.

¹⁷ For example, in the 111th Congress a Manager's Amendment to major climate change legislation added a full title specifically directed toward agriculture. Title V of H.R. 2454, created an offset program for agriculture and forestry related practices to be run by USDA, rather than EPA.

¹⁸ An example of freestanding legislation proposed in the 112th Congress is H.R. 910 and its Senate counterpart, S. 482. These bills known as the Energy Tax Prevention Act of 2011, would restrict EPA authority and repeal a dozen EPA regulatory actions dealing with GHGs. The House Energy and Commerce Committee approved H.R. 910 and the Senate counterpart (S. 482) was debated as an amendment to S. 493 during the week of March 14.

¹⁹ P.L. 111-88, for additional information, see CRS Report R41149, *Environmental Protection Agency (EPA): Appropriations for FY2011*.

²⁰ P.L. 112-6.

not agree to a substitute text (S.Amdt. 149) that contained different funding levels and generally omitted the EPA regulatory provisions in the House-passed bill.²¹

Report Organization

The remainder of this report is organized under four broad subheadings: Air, Water, Energy, and Chemicals. Each section includes selected regulatory actions and provides background information and statutory authority, followed by the current status of the rule or regulatory action and issues identified or raised by the agricultural community regarding the regulatory action. Finally, each section identifies the appropriate CRS specialist for additional information; these contacts are also listed in **Table 1**.

Table 1. CRS Specialists on Environmental Issues

Issue Area	CRS Specialist	Contact Information
Clean Water Act	Claudia Copeland	ccopeland@crs.loc.gov, 7-7227
Endangered Species Act	Lynne Corn	lcorn@crs.loc.gov, 7-7267
Clean Air Act, particulate matter	Rob Esworthy	resworthy@crs.loc.gov, 7-7236
Clean Air Act	Jim McCarthy	jmccarthy@crs.loc.gov, 7-7225
Spill prevention	Jonathan Ramseur	jramseur@crs.loc.gov, 7-7919
Toxic Substances Control Act, chemicals	Linda-Jo Schierow	lschierow@crs.loc.gov, 7-7279
Agriculture-based biofuels, ethanol	Randy Schnepf	rschnepf@crs.loc.gov, 7-4277
Voluntary agriculture conservation	Megan Stubbs	mstubbs@crs.loc.gov, 7-8707
Clean Air Act, mobile sources, biofuels	Brent Yacobucci	byacobucci@crs.loc.gov, 7-9662

Air

Agricultural production practices from both livestock and crop operations generate a variety of substances that enter the atmosphere, potentially creating health and environmental issues. Agriculture’s effect on air quality rose to national importance in the 1930s, when the conversion of native grasslands to cropland caused severe dust storms known as the Dust Bowl. The federal response to this phenomenon created many of the conservation outreach and education programs that remain in place today.²² While dust storms of this proportion no longer occur in the United States, issues associated with soil erosion, particulates and farm chemical emissions, and livestock odor are still of concern.

The following section covers five federal regulations relating to air, including:

- mandatory reporting of greenhouse gases (GHGs);
- GHG emissions tailoring rule and the “cow tax”;

²¹ For information, see CRS Report R41698, *H.R. 1 Full-Year FY2011 Continuing Resolution: Overview of Environmental Protection Agency (EPA) Provisions*.

²² For additional information, see CRS Report RL34069, *Technical Assistance for Agriculture Conservation*.

- reductions of emissions from gasoline/diesel powered stationary engines;
- national ambient air quality standards (particulate matter and ozone); and
- Emergency Planning and Community Right-to-Know Act (EPCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) reporting requirements.

Mandatory Reporting of Greenhouse Gases (GHGs)

EPA was required by the FY2008 Consolidated Appropriations Act²³ “to develop and publish a ... final rule not later than 18 months after the date of enactment of this Act, to require mandatory reporting of greenhouse gas (GHG) emissions above appropriate thresholds in all sectors of the economy of the United States.”

On October 30, 2009, EPA promulgated the final Greenhouse Gas Reporting Rule.²⁴ The rule requires suppliers of fossil fuels or industrial gases, manufacturers of vehicles and engines, owners or operators of electric power plants, and other—mostly industrial—sources to report their emissions of GHGs to EPA annually, beginning in 2011. Covered entities are required to report to EPA if they emit 25,000 tons or more of carbon dioxide or the equivalent amount of five other GHGs (methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride and other fluorinated gases). About 10,000 facilities in 31 categories of sources were covered by the rule, as promulgated. EPA subsequently added 11 other categories of sources.

Status

The only agricultural sources covered by the Reporting Rule are manure management systems that emit methane and nitrous oxide in amounts greater than the reporting threshold. EPA identified six specific categories of agricultural sources that could be subject to the rule: beef cattle feedlots; dairy cattle and milk production facilities; hog and pig farms; chicken egg production facilities; turkey production; and broilers and other meat type chicken production. In all, EPA estimates that 107 livestock facilities nationwide would need to report under the rule.

In EPA’s FY2010 appropriations act,²⁵ however, Congress included language barring EPA from using funds under that act to implement mandatory GHG reporting by manure management facilities. This prohibition was carried over into FY2011 by the continuing resolutions that have funded EPA’s continued operation (currently P.L. 112-6). Therefore, despite the inclusion of manure management systems among the regulated entities, no agricultural sources are currently required to comply with the Reporting Rule.

Issues

For the facilities required to report, the rule imposes little cost because it only requires monitoring and reporting, and the monitoring does not require direct measurement of emissions. EPA

²³ P.L. 110-161.

²⁴ U.S. Environmental Protection Agency, “Mandatory Reporting of Greenhouse Gases,” *74 Federal Register* 56260, October 30, 2009.

²⁵ Department of the Interior, Environment, and Related Agencies Appropriations Act, 2010, P.L. 111-88.

considered requiring direct measurement of GHG emissions from manure management systems, but rejected the approach due to what it termed “the extreme expense and complexity of such a measurement program.”²⁶ Instead, the agency promulgated an approach that allows the use of default factors, such as a system emission factor, for certain elements of the calculation, combined with the use of site-specific data (e.g., number of livestock). EPA estimated the total annual cost of the rule for the 107 potentially affected manure management facilities to be \$300,000.

In comments on the proposed rule, a number of agricultural stakeholders noted that agriculture as a whole is responsible for less than 1% of total GHGs emitted and questioned why manure management systems in particular were included in the proposal. Other categories of agricultural sources, such as livestock enteric fermentation and soil management, emit larger amounts of methane and nitrous oxide. EPA explained that it did not include reporting by the other agriculture categories because, for those sources, no direct GHG emission measurement methods are available except for expensive and complex equipment. Using emissions estimates for such sources, instead of direct measurement, would have a high degree of uncertainty and could burden a large number of small emitters.

Commenters also expressed concern about the difficulty that livestock facilities might have in determining whether or not they are subject to the rule. In response to these comments, EPA modified the proposal to remove manure sampling requirements and instead will allow facilities to use default values for estimating emissions. The threshold table within the final rule (**Table 2**) identifies animal population threshold levels below which facilities are not required to report emissions.

Table 2. EPA Animal Population Threshold Below Which Facilities Are Not Required to Report GHG Emissions

Animal Group	Average Animal Population (Head)
Beef	29,300
Dairy	3,200
Swine	34,100
Poultry:	
Layers	723,600
Broilers	38,160,000
Turkeys	7,710,000

Source: U.S. Environmental Protection Agency, “Mandatory Reporting of Greenhouse Gases,” *74 Federal Register* 56485, October 30, 2009.

Notes: For all animal groups except dairy, the average annual animal population represents the total number of animals present at the facility. For dairy facilities, the average annual animal population represents the number of mature dairy cows present at the facility. For additional information, see Table JJ-1 of the Environmental Protection Agency, “Mandatory Reporting of Greenhouse Gases,” *74 Federal Register* 56485, October 30, 2009.

²⁶ U.S. Environmental Protection Agency, “Mandatory Reporting of Greenhouse Gases,” *74 Federal Register* 56339, October 30, 2009.

CRS Contacts

Claudia Copeland, Specialist in Resources and Environmental Policy, 7-7227, ccopeland@crs.loc.gov, or Jim McCarthy, Specialist in Environmental Policy, 7-7225, jmccarthy@crs.loc.gov.

GHG Emissions Tailoring Rule and the “Cow Tax”

EPA promulgated standards for GHG emissions from new light duty motor vehicles on May 7, 2010 (see “Motor Vehicle and Heavy-Duty Truck GHG Rule and Corporate Average Fuel Economy (CAFE) Standards,” below).²⁷ The standards are not considered particularly controversial in and of themselves, but their implementation, on January 2, 2011, triggered two other requirements of the Clean Air Act (CAA) that apply to stationary sources. The first of these is a requirement that stationary sources emitting any air pollutant “subject to regulation” under the act must obtain a permit under Title V of the CAA (Title V permit) if they emit more than 100 tons per year of the pollutant subject to regulation. Agricultural sources, such as confined animal feeding operations (CAFOs), are among those that could potentially be subject to this permit requirement. Because permit applicants must pay a fee to cover the costs of administering the permit program, many in the agriculture community have referred to this requirement as the “cow tax.”

The second requirement triggered by implementation of the motor vehicle standards is a requirement that new or modified stationary sources emitting more than 100 or 250 tons annually of any pollutant subject to regulation under the act must obtain pre-construction permits (referred to as “PSD” permits) and install Best Available Control Technology (BACT) to reduce emissions.

Status

On June 3, 2010, EPA promulgated a rule that sets high thresholds for the Title V permit and PSD/BACT requirements that would apply to GHG emissions.²⁸ EPA says that under the promulgated rule, the agency has not identified any agricultural sources that would be required to obtain permits for GHG emissions, and therefore none would be subject to BACT requirements.²⁹

Under the rule, called the GHG “Tailoring Rule,” the threshold initially is annual emissions of 75,000 tons of carbon dioxide equivalents, not 100 or 250 tons as required for other pollutants by the PSD and Title V permits. With this threshold, the nation’s largest GHG emitters, including

²⁷ U.S. Environmental Protection Agency, U.S. Department of Transportation, “Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule,” *75 Federal Register* 25324-25728, May 7, 2010.

²⁸ U.S. Environmental Protection Agency, “Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Final Rule,” *75 Federal Register* 31514, June 3, 2010.

²⁹ EPA Briefing on the Tailoring Rule, House Energy and Commerce Committee, May 14, 2010. This issue is also discussed in RTI International, for U.S. EPA, “Regulatory Impact Analysis for the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,” Final Report, May 2010, pp. 64-66, at <http://www.epa.gov/ttn/ecas/regdata/RIAs/riatailoring.pdf>. A key reason that agricultural sources would not require permits is that EPA excludes what are called “fugitive emissions” from the emissions used to determine whether an agricultural source is a major source subject to permit requirements. Fugitive emissions are emissions that are not released through a stack or vent, or could not be reasonably collected and released through a stack or vent.

power plants, refineries, cement production facilities and about two dozen other categories of sources (an estimated 13,000 facilities in all, or nearly 70% of the nation's largest stationary source GHG emitters) are the only sources required to obtain permits. Farms, smaller businesses, and large residential structures (about 6 million sources in all these categories), which would otherwise be required to obtain permits after GHGs became subject to regulation, are shielded from permitting requirements, including permit fees.

The June 2010 Tailoring Rule does not permanently exempt smaller sources. EPA expects to lower the threshold, but not below 50,000 tons of GHG emissions, through separate rule-making that would take effect in 2013. Further, EPA and state permitting authorities, within five years of the rule's promulgation, would conduct a study of the permitting authorities' ability to administer more inclusive PSD and Title V permit programs. Within a year of the study's completion, EPA and state permitting authorities would conduct rulemaking for this phase of the program. The study might confirm the threshold, revise it, or establish other streamlining techniques for subsequent permitting activity. It is unclear how agricultural sources might be affected by rule changes in 2013 or thereafter.

In the FY2010 appropriations act for EPA,³⁰ Congress included a provision prohibiting EPA from using funds under the act to promulgate or implement any rule requiring the issuance of CAA Title V permits for GHG emissions associated with livestock production. This prohibition was carried over into FY2011 by the continuing resolutions that have funded EPA's continued operation.

Issues

The issues related to the Tailoring Rule are similar to those raised by the "Mandatory Reporting of Greenhouse Gases (GHGs)," discussed above. The rule itself appears to exempt all agricultural sources by its high thresholds and the exclusion of fugitive emissions, but many are concerned about whether EPA intends to consider any agricultural sources as subject to regulation under future Clean Air Act GHG rules.

CRS Contacts

Claudia Copeland, Specialist in Resources and Environmental Policy, 7-7227, ccopeland@crs.loc.gov, or Jim McCarthy, Specialist in Environmental Policy, 7-7225, jmccarthy@crs.loc.gov.

Reduction of Emissions from Gasoline/Diesel Powered Stationary Engines

On June 15, 2004, EPA promulgated emission control standards for hazardous air pollutants emitted by gasoline- and diesel-powered stationary engines. This is primarily of concern to agricultural operations that rely on gas and diesel engines for irrigation pumping. The standards are generally referred to as the RICE (Reciprocating Internal Combustion Engine) rules. Besides setting emission standards, the rules would have exempted these engines from emission controls

³⁰ P.L. 111-88.

during startup, shutdown, and periods of malfunction. On December 18, 2008, the D.C. Circuit Court of Appeals ruled that the standards must address emissions during all phases of operation, including periods of startup, shutdown, and malfunction. As a result, the court vacated and remanded the rules to EPA.

Status

EPA subsequently divided the standards into two regulatory actions. On March 3, 2010, the agency issued a final rule for existing diesel-powered stationary engines.³¹ The rule will apply to more than 900,000 stationary engines that are used as generators and to power pumps in industrial and agricultural settings. EPA issued final emissions standards for existing stationary engines that burn gasoline, natural gas, and landfill gas, known as spark ignition engines, on August 20, 2010.³²

Issues

The proposed rules were criticized by some state permitting authorities and industry groups as being unworkable, difficult to enforce, and perhaps unnecessary in rural settings. In response to these comments, EPA stated that most engines used by agricultural sources are smaller than 300 horsepower, and will be subject only to required management practices (e.g., frequency of oil changes). Catalysts or other control equipment would not be required.

CRS Contact

Jim McCarthy, Specialist in Environmental Policy, 7-7225, jmccarthy@crs.loc.gov.

National Ambient Air Quality Standards (NAAQS)— Particulate Matter

National Ambient Air Quality Standards (NAAQS) are standards for outdoor (ambient) air that are intended to protect public health and welfare from harmful concentrations of pollution. NAAQS are at the core of the Clean Air Act, even though they do not directly regulate emissions. In essence, they are standards that define what EPA considers to be clean air. Once a NAAQS has been set, the agency, using monitoring data and other information submitted by the states, identifies areas that exceed the standard and must, therefore, reduce pollutant concentrations to achieve it. After these “nonattainment” areas are identified, state and local governments have up to three years to produce State Implementation Plans that outline the measures they will implement to reduce the pollution levels and attain the standards.

NAAQS have been set for six pollutants. The two that affect the largest number of areas are those for ozone and particulate matter (PM). Because some farming and livestock practices contribute to particulate matter emissions (e.g., dust) and because particulate matter and ozone can affect

³¹ U.S. Environmental Protection Agency, “National Emission Standards for Hazardous Air Pollutants: Reciprocating Internal Combustion Engines; Final Rule,” *75 Federal Register* 9648, March 3, 2010.

³² U.S. Environmental Protection Agency, “National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; Final Rule,” *75 Federal Register* 51570, August 20, 2010.

agricultural productivity, the agricultural community continues to show particular interest in these standards.

On October 17, 2006, EPA published its final revisions to the NAAQS for particulate matter (particulates, or PM) and the national air quality monitoring requirements.³³ EPA revised the primary PM NAAQS by strengthening the preexisting (1997) standard for “fine” particulate matter—PM_{2.5}—by lowering the allowable *daily* concentration averaged over 24-hour periods of PM_{2.5} in the air. The *annual* PM_{2.5} standard was unchanged from the 1997 standard. The 2006 PM NAAQS also retained the 24-hour standard and revoked the annual standard for slightly larger, but still inhalable, particles less than or equal to 10 micrometers (PM₁₀).³⁴

On November 13, 2009, EPA published its final designations for the 2006 PM_{2.5} NAAQS that include 120 counties and portions of counties in 18 states as nonattainment areas based on 2006-2008 air quality monitoring data. The majority of the roughly 3,000 counties throughout the United States (including tribal lands) were designated attainment/unclassifiable. States have three years from the effective date to submit State Implementation Plans (SIPs), which identify specific regulations and emission control requirements that would bring an area into compliance with the standard. The EPA is not requiring new nonattainment designations for PM₁₀ since the standards were not strengthened. The counties designated nonattainment for the PM₁₀ NAAQS are primarily located in California, Arizona, and Utah (discussed in the “Issues” section below).

Status

EPA has initiated the next round of the periodic review of the particulates NAAQS, targeting June 2011 for proposing changes to the standards.³⁵ Final standards would not likely be promulgated before spring 2012, based on previous EPA target dates.³⁶ Potential risk reduction estimates and initial EPA staff recommendations reported in July and August 2010 draft assessments, and subsequent reviews by the Clean Air Scientific Advisory Committee (CASAC), call into question the adequacy of protection afforded by the current PM standards (discussed further below). EPA continues implementation of the 2006 PM NAAQS.

³³ U.S. Environmental Protection Agency, “National Ambient Air Quality Standards for Particulate Matter,” 71 *Federal Register* 61144-61233, October 17, 2006 and U.S. Environmental Protection Agency, “Revisions to Ambient Air Monitoring Regulations,” 71 *Federal Register* 61236-61238, October 17, 2006. EPA indicated that it would be expanding its research and monitoring programs to collect additional evidence on the differences between coarse particles typically found in urban areas and those typically found in rural areas. Some stakeholders have expressed concern about EPA’s monitoring efforts in rural areas and the future implication monitoring results could have on those areas. Currently, EPA has stated that its monitoring efforts to measure PM are primarily research driven for the purpose of establishing necessary scientific criteria, and not for enforcement purposes.

³⁴ For additional information, see CRS Report RL34762, *The National Ambient Air Quality Standards (NAAQS) for Particulate Matter (PM): EPA’s 2006 Revisions and Associated Issues*.

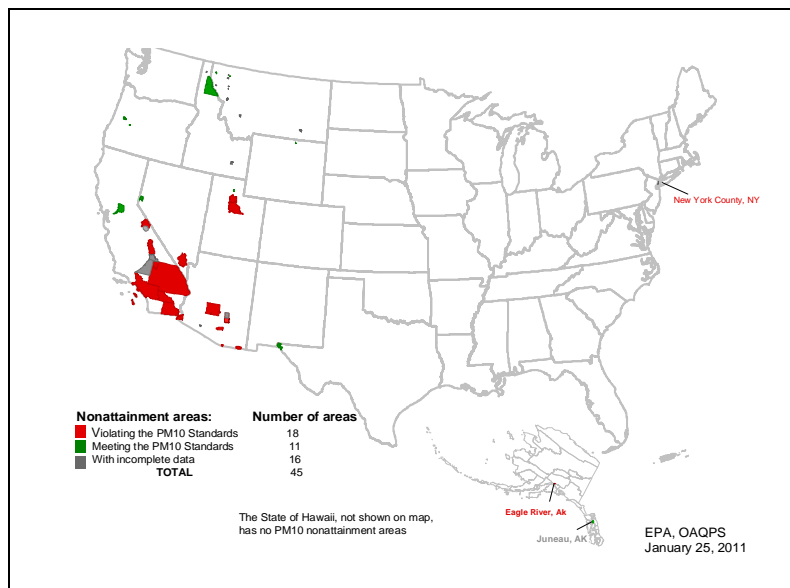
³⁵ CRS direct communication with the EPA Office of Air Quality Planning and Standards (OAQPS), January 7, 2011.

³⁶ EPA had previously targeted proposing changes to the standards by February 2011 and October 2011 for final standards, U.S. Environmental Protection Agency, “Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone: Proposed Rule,” 75 *Federal Register* 45220, August 2, 2010.

Issues

The PM₁₀ NAAQS are generally more of a concern within the agricultural community than the PM_{2.5} NAAQS.³⁷ Because the PM₁₀ standard was not strengthened under the revised 2006 PM NAAQS, no new areas, including rural or non-urban areas, were designated as nonattainment for PM₁₀. The majority of the 3,000 counties throughout the United States (including tribal lands) were designated attainment/unclassifiable PM₁₀ NAAQS. As of January 25, 2011, 42 of the original 87 PM₁₀ designated nonattainment areas have been redesignated to attainment.³⁸ Primarily counties in California and the other western states have not yet come into attainment (Figure 1). Only counties in California and Arizona have SIPs that directly include requirements related to agricultural operations.

Figure 1. Status of PM₁₀ Nonattainment Areas
(based on 2006-2008 air quality)



Source: Provided to CRS by the EPA Office of Air Quality Planning and Standards, January 25, 2011.

Notes: Areas not highlighted on the map are designated attainment/unclassifiable. There are no PM₁₀ nonattainment areas in Hawaii, which was not included on the EPA map. For more information, see CRS Report RL33254, *Air Quality: EPA's 2006 Changes to the Particulate Matter (PM) Standards*.

³⁷ There has been some concern regarding designations in rural areas for the 2006 PM_{2.5} NAAQS. The designated nonattainment areas for the PM_{2.5} are primarily concentrated in the central, mid-Atlantic, and southeastern states east of the Mississippi River, as well as in California, mostly in and around highly populated metropolitan areas. Several states and industry, agriculture, business, and public advocacy groups petitioned the court challenging certain aspects of EPA's revisions. A February 24, 2009, decision by the U.S. Court of Appeals for the D.C. Circuit granted the petitions in part, denying other challenges (*American Farm Bureau Federation v. U.S. EPA*, No. 06-1410, D.C. Cir., February 24, 2009).

³⁸ See EPA's PM₁₀ designations at <http://www.epa.gov/air/oaqps/greenbk/pindex.html>. Primarily counties in California and the other western states have not yet come into attainment.

EPA draft assessments³⁹ in support of its next round of review of the particulates NAAQS have stimulated considerable debate and comment, particularly within the agricultural community, with regard to further tightening the PM₁₀ standards. With regard to the adequacy of the current primary 24-hour (daily) PM₁₀ standard, EPA staff concluded that consideration should be given to retaining or revising the current standard downward in a June 2010 second external review draft policy assessment. In its August 2010 review of the draft assessment, CASAC included recommendations that “the primary standard be revised downwards and not retained,” and did not agree that the available scientific evidence strongly supports the upper bound standard level proposed by EPA staff,⁴⁰ instead favoring a more stringent level to “provide enhanced protection.”

In July and August 2010 letters to the EPA Administrator, some Members of Congress raised concerns about EPA’s July 2010 staff recommendations and the potential impacts on agriculture associated with tightening the PM₁₀ standards, encouraging EPA to retain the current primary standards.⁴¹

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National Ambient Air Quality Standards (NAAQS)—Ozone⁴²

Under the CAA, EPA is to review the science for each of the NAAQS every five years, and either reaffirm or revise the standard. The EPA Administrator completed a review of the ozone NAAQS in March 2008, and made both the primary (health-based) and secondary (welfare-based) standards more stringent, but he did not set the standards within the ranges recommended by the independent panel of scientists that advises him (i.e., CASAC). He also rejected their advice to change the form of the secondary standard to better measure whether ozone concentrations were

³⁹ See *Policy Assessment for the Review of the PM NAAQS - First External Review Draft* (EPA 452/P-10-003, March 2010) and *Policy Assessment for the Review of the PM NAAQS - Second External Review Draft* (EPA-452/P-10-007, June 2010); U.S. EPA, *Integrated Science Assessment for Particulate Matter (Final Report)* (EPA/600/R-08/139F, December 2009), and *Risk Assessment to Support the Review of the PM Primary National Ambient Air Quality Standards—External Review Draft* (EPA 450/P_09-006, September 2009). Both assessments are available at http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html. U.S. Environmental Protection Agency, “Release of Draft Documents Related to the Review of the National Ambient Air Quality Standards for Particulate Matter,” 74 *Federal Register* 46589, September 10, 2009.

⁴⁰ EPA Clean Air Advisory Committee (CASAC) Particulate Matter (PM) Review Committee: CASAC Review of Policy Assessment for the Review of the PM NAAQS – Second External Review Draft (June 2010), August 10, 2010, Draft; CASAC Review of Policy Assessment for the Review of the PM NAAQS - First External Review Draft (March 2010), May 17, 2010. See also CASAC’s Review of Quantitative Health Risk Assessment for Particulate Matter—Second External Review Draft, (February 2010), April 15, 2010. These documents are available at http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html.

⁴¹ Letters to EPA Administrator Lisa Jackson: joint letter from 21 Senators, July 23, 2010, <http://grassley.senate.gov/about/upload/Agriculture-07-23-10-dust-letter-to-EPA-signed-version-doc.pdf>; joint letter from Senators Kent Conrad and Byron Dorgan, and Representative Earl Pomeroy, August 5, 2010, <http://conrad.senate.gov/pressroom/record.cfm?id=327070&>.

⁴² For additional background on NAAQS, see the previously discussed “National Ambient Air Quality Standards (NAAQS)—Particulate Matter” section.

above levels needed to protect crops and forests from damage.⁴³ Challenged in court, EPA agreed to reconsider the March 2008 decisions (court decisions are discussed further below).

Status

On January 19, 2010, EPA proposed to strengthen the primary ozone NAAQS and to revise the form of the secondary standard as the agency's scientific advisers had recommended. Under the proposed revisions, the vast majority of counties with ozone monitors would be found in nonattainment of the primary standard, using the most recent available data, and many might violate the secondary standard, as well.

EPA expects to promulgate a final version by July 29, 2011. Between now and July 29, the agency plans to ask its Clean Air Scientific Advisory Committee (CASAC) to conduct a further review and allow for additional public comment. EPA is also proposing new monitoring requirements for the states, with more monitors to be placed in rural areas.⁴⁴

Issues

After promulgation of a revised NAAQS, implementation takes several years. First, areas need to be designated "attainment" or "nonattainment." States then have three years to develop implementation plans identifying control measures. In the meantime, air quality is likely to improve as a result of regulations currently being phased in for cars, trucks, and electric power plants, among other sources.

Ultimately, however, the ozone NAAQS revision could be one of the more significant regulations promulgated by EPA, and could call attention to air quality problems in agricultural areas to a far greater extent than previous standards.

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EPCRA and CERCLA Reporting Requirements

The Emergency Planning and Community Right-to-Know Act (EPCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) have reporting requirements that are triggered when specified quantities of certain substances are released to the environment, including ammonia and hydrogen sulfide. Both ammonia and hydrogen sulfide are chemicals generated by livestock manure, particularly swine and poultry, when in concentrated animal populations. Both CERCLA and EPCRA include citizen suit

⁴³ The damage that crops and vegetation suffer from ozone exposure is cumulative over the growing season. In order to better measure and provide protection against these impacts, EPA staff recommended a new seasonal (3-month) average for the secondary standard that would cumulate hourly ozone exposures for the daily 12-hour daylight window. Previously, the secondary standard simply measured the highest individual readings for any 8-hour period. CASAC agreed with this recommendation.

⁴⁴ For additional information on the proposed standards, see CRS Report R41062, *Ozone Air Quality Standards: EPA's Proposed Revisions*.

provisions that have been successfully used to take legal action against poultry and swine operations for violations of the reporting requirements of the laws. In 2005, a group of poultry producers petitioned EPA for an exemption from EPCRA and CERCLA release reporting requirements, arguing that releases from poultry growing operations pose little or no risk to public health, while reporting imposes an undue burden on producers and government responders.⁴⁵

Status

In December 2008, EPA promulgated an EPCRA/CERCLA administrative reporting exemption for air releases.⁴⁶ The final rule exempts hazardous substance releases that are emitted to the air from all livestock operations (not just poultry farms) from CERCLA's requirement to report releases to the air to federal officials. It provides a partial exemption for such releases from EPCRA's requirement to report releases to state and local emergency officials: the final rule continues to apply EPCRA's reporting requirement to large CAFOs (those subject to Clean Water Act permitting, discussed below in the section on "Implementation of Existing Clean Water Act Permit Requirements for CAFOs"), but it exempts smaller facilities. The reporting exemptions in the final rule took effect January 20, 2009.

The 2008 rule was challenged by industry groups, including the National Pork Producers Council, as well as environmental advocates. Industry sought legal action, arguing that CAFOs should be exempted from all reporting under Superfund and EPCRA because air emissions from animal feeding operations pose no threat to public health or the environment. Environmentalists also went to court, arguing that CAFOs should report under both laws because air emissions from animal feedings operations do pose a public health and environmental risk. The legal challenges were consolidated in the U.S. Court of Appeals for the District of Columbia (*Waterkeeper Alliance v. EPA*, D.C. Cir., No. 09-1017). In June 2010 the government asked the court to remand the 2008 rule for reconsideration and possible modification. The court approved the government's request in October 2010, and although the rule remains in effect, the future schedule is currently unknown.

Issues

The agriculture industry remains concerned about the potential burden on large CAFOs of complying with the EPCRA reporting requirements, even though the final rule exempted facilities that are not subject to Clean Water Act permitting (see "Implementation of Existing Clean Water Act Permit Requirements for CAFOs," below). Critics of the 2008 rule, including environmentalists and some state air quality officials, contend that the CERCLA and EPCRA reports provide good information about emissions that enable citizens to hold companies accountable in terms of how toxic chemicals are managed.

⁴⁵ For additional information, see CRS Report RL33691, *Animal Waste and Hazardous Substances: Current Laws and Legislative Issues*.

⁴⁶ U.S. Environmental Protection Agency, "CERCLA/EPCRA Administrative Reporting Exemption for Air Releases," *73 Federal Register* 76948-76960, December 18, 2008.

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Water

The release of sediment, nutrients, pathogens, and pesticides from agricultural production can degrade the quality of water resources. While it is widely believed that agriculture can have a significant impact on water quality, there is no comprehensive national study of agriculture's effect on water quality.⁴⁷ Several water quality assessments document degradation from agriculture practices; however, the extent and magnitude is difficult to measure because of its nonpoint nature.⁴⁸ Federal water laws, such as the Clean Water Act (CWA), largely do not regulate agricultural actors, in many cases giving the regulatory responsibilities to the states. Constraints on agricultural production to reduce pollution discharges typically arise at the state level in response to local concerns.⁴⁹

The following section covers four regulations relating to water, including:

- implementation of existing Clean Water Act permit requirements for CAFOs;
- Chesapeake Bay protection and restoration;
- Florida nutrient water quality standards; and
- spill prevention control and countermeasure (SPCC) plans.

Implementation of Existing Clean Water Act Permit Requirements for CAFOs

Under the CWA, while most of agriculture is exempt from federal regulation, large CAFOs are defined as point sources and thus are subject to the act's prohibition against discharging pollutants into U.S. waters without a permit. In October 2008, EPA issued a regulation to revise a 2003 CWA rule governing waste discharges from CAFOs. This action was necessitated by a 2005 federal court decision (*Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486 (2nd Cir. 2005)), resulting from challenges brought by agriculture industry groups and environmental advocacy groups that

⁴⁷ Marc Ribaud and Robert Johansson, *Agricultural Resources and Environmental Indicators, 2006 Edition*, USDA, ERS, Economic Information Bulletin No. (EIB-16), Washington, DC, July 2006, p. 2.2, <http://www.ers.usda.gov/publications/AREI/EIB16/Chapter2/2.2/>. Periodically EPA conducts a National Water Quality Inventory that provides a general water quality assessment based on state collected data. The information for the EPA Inventory is for a relatively small subset of the nation's total waters that are assessed by states and does not represent the waterbodies that were not assessed. For additional information, see EPA, *National Water Quality Inventory: Report to Congress, 2004 Reporting Cycle*, EPA 841-R-08-001, Washington, DC, January 2009, http://water.epa.gov/lawsregs/guidance/cwa/305b/2004report_index.cfm.

⁴⁸ Nonpoint source pollution generally refers to polluted runoff from farms, ranches, forests and urban areas. Nonpoint sources are also subject to natural variability (e.g., weather related events) and depend on many site-specific conditions, such as topography, soil type, and climate.

⁴⁹ Much of the federal response to water quality concerns for agriculture is primarily voluntary and incentive-based.

vacated parts of the 2003 rule and remanded other parts to EPA for clarification.⁵⁰ The 2008 rule details requirements for permits, annual reports, and development of plans for handling manure and wastewater. Parts of the rule are intended to control land application of manure and wastewater.

Status

According to EPA, the 2008 rule applies to about 15,300 CAFOs that will need permit coverage (74% of the 20,700 CAFOs operating in 2008).⁵¹ Under the rule, CAFOs were to obtain permits and develop and implement nutrient management plans by February 27, 2009.

Further legal challenges followed promulgation of the 2008 revised rule. Agricultural industry groups (although generally satisfied with the rule) filed lawsuits in several federal appellate circuits. Environmental groups also brought a legal challenge to the rule. The various petitions were consolidated in the U.S. Court of Appeals for the 5th Circuit.⁵² In addition, EPA officials discussed with environmental plaintiffs possible settlement of portions of the litigation that could involve additional regulatory changes. In December 2009, the court agreed to a joint request from EPA and environmentalists to sever the activists' portion of the litigation. In settling with environmental plaintiffs, EPA agreed to issue guidance aimed at clarifying what CAFOs must do to comply with federal clean water regulations and to help CAFO owners determine whether they need permits; the guidance was issued in May 2010.⁵³ EPA also agreed to propose a rule within one year to collect facility information from all CAFOs, such as number of types of animals, type and capacity of manure storage or treatment process, and quantity of manure generated annually by the CAFO, in order to provide a CAFO inventory and assist in implementing the 2008 rule. EPA expects to propose this information collection rule in May 2011.

The challenge to the rule by agricultural industry groups continued, even after EPA's settlement with environmental plaintiffs. On March 15, 2011, a federal court issued a ruling that supported industry's challenge on several issues. The court vacated aspects of the 2008 rule requiring permits for proposed discharges (permits are still required for CAFOs that actually discharge) and allowing EPA to take enforcement action against CAFO owners based on their failure to apply for permits.⁵⁴

⁵⁰ U.S. Environmental Protection Agency, "Revised National Pollutant Discharge Elimination System Permit Regulation and Effluent Limitations Guidelines for Concentrated Animal Feeding Operations in Response to the Waterkeeper Decision, Final Rule," 73 *Federal Register* 225, November 20, 2008, pp. 70417-70486. For additional information on EPA's response to the court decision, see CRS Report RL33656, *Animal Waste and Water Quality: EPA's Response to the Waterkeeper Alliance Court Decision on Regulation of CAFOs*.

⁵¹ The rule specifies thresholds above which permits are required, such as animal feeding operations that stable or confine more than 700 dairy cows, 2,500 swine weighing 55 pounds or more, or 500 horses.

⁵² *National Pork Producers Council v. EPA*, 5th Cir., No. 08-61093.

⁵³ U.S. Environmental Protection Agency, *Implementation Guidance on CAFO Regulations - CAFOs That Discharge or Are Proposing to Discharge*, EPA-833-R-10-006, May 27, 2010, http://www.epa.gov/npdes/pubs/cafo_implementation_guidance.pdf.

⁵⁴ *National Pork Producers v. EPA*, 5th Cir., No. 08-61093 (Mar. 15, 2011), <http://www.ca5.uscourts.gov/opinions%5Cpub%5C08/08-61093-CV0.wpd.pdf>.

Issues

The rest of the 2008 rule was not affected by the court's March 2011 ruling and remains in effect. EPA's response to the decision and possible regulatory or guidance changes that might be required are unclear for now. In addition, a number of questions linger about implementation of the 2008 rule. For example, agricultural industry groups are concerned that EPA regions may be providing differing interpretations of a provision of the 2008 rule that allows farms to self-certify that they will not discharge, a finding that allows them to avoid having to apply for a permit and protects CAFOs from liability for not having a permit in the event of an accidental discharge. Further, some agricultural industry groups also are concerned that EPA will initiate a new rulemaking that would include additional permit and pathogen control requirements.

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Chesapeake Bay Protection and Restoration

Despite several decades of activity by governments, the private sector, and the general public, efforts to improve and protect the Chesapeake Bay watershed have been insufficient to meet restoration goals. Although some specific indicators of Bay health have improved slightly or remained steady (such as blue crabs and underwater bay grasses), others remain at low levels of improvement, especially water quality. Overall, the Bay and its tributaries remain in poor health, with polluted water, reduced populations of fish and shellfish, and degraded habitat and resources. The primary pollutants causing impairments are nutrients (nitrogen and phosphorus) and sediment discharged from multiple urban, suburban, and rural sources around the Bay.

In May 2009, President Obama issued an executive order that declared the Bay a "national treasure" and charged the federal government with assuming a strong leadership role in restoring the Bay.⁵⁵ The executive order established a Federal Leadership Committee for the Chesapeake Bay to develop and implement a new strategy for protecting and restoring the Chesapeake region. The resulting strategy, which was released in May 2010, launched major specific environmental initiatives to establish new clean water regulations on stormwater discharges and pollution discharges from animal feedlots in the Bay watershed, put new agricultural conservation practices on farms in the region, and restore land and water habitat.⁵⁶

According to EPA, agriculture represents the single largest source of nutrient and sediment pollution to the Bay, with about half of agriculture's pollutant load directly related to livestock waste. Agriculture covers about 25% of the Bay watershed, and is the largest intensively managed land use in the watershed. EPA believes that excess livestock waste, improperly applied fertilizers, and certain cropland tillage practices increase nutrient and sediment discharges to the Bay.

⁵⁵ Executive Order 13508, "Chesapeake Bay Protection and Restoration," 74 *Federal Register* 23099-23104, May 15, 2009.

⁵⁶ For information, see http://www.chesapeakebay.net/news_federalstrategy.aspx?menuitem=51207.

A central feature of the overall strategy for restoring the Bay is EPA's establishment of a total maximum daily load (TMDL). Section 303 of the CWA requires states to identify waters that are impaired by pollution, even after application of pollution controls. For those waters, states must establish a TMDL to ensure that water quality standards can be attained. A TMDL is essentially a pollution budget, a quantitative estimate of what it takes to achieve standards, setting the maximum amount of pollution that a waterbody can receive without violating standards. If a state fails to do this, EPA is required by the CWA to make its own TMDL determination for the state. Throughout the United States—including the Chesapeake Bay watershed—more than 20,000 waterways are known to be violating applicable water quality standards and to require a TMDL.⁵⁷ Lawsuits have been brought with the intention of pressuring EPA and states to develop TMDLs, including for the Chesapeake Bay because the waters of the Bay have been identified as being impaired, that is, as not meeting applicable water quality standards. The Chesapeake Bay TMDL is the largest single TMDL developed to date. It addresses all segments of the Bay and its tidal tributaries that are impaired from discharges of nitrogen, phosphorus, and sediment. The goal is to have TMDL implementation measures in place by 2025 to assure attainment and maintenance of all applicable water quality standards. The TMDL allocates needed reductions of these pollutants to all jurisdictions in the 64,000 square mile watershed, not to individual segments of streams or waterbodies, as is more typical of other TMDLs prepared by states or EPA.⁵⁸

As part of the TMDL development process, states are to prepare Watershed Implementation Plans (WIPs) identifying specific reductions and control measures to achieve needed pollutant reductions from point sources (i.e., industrial and municipal facilities and CAFOs) and nonpoint sources (i.e., farms and forests), as well as two-year milestones to implement the plans. EPA fully expects that states will meet commitments and milestones in the WIPs, but the agency also has identified a number of potential actions currently available to it if a state fails to do so, including expanding permit coverage to currently unregulated sources, requiring net improvement offsets, conditioning EPA grants, or increasing federal enforcement in the watershed.

Status

Under a consent decree resolving some of the litigation over the Chesapeake Bay, EPA was required to establish a TMDL no later than May 1, 2011. EPA issued the TMDL on December 29, 2010—ahead of its self-imposed December 31 deadline.⁵⁹

Issues

Specific requirements that could apply to agricultural operations generally, or in particular segments of the watershed, are speculative until WIPs are developed by states. Nevertheless, EPA's TMDL plans and the overall federal Bay restoration strategy under the 2009 executive order are controversial with agricultural and other groups that are concerned about the likely mandatory nature of many of EPA's and states' upcoming actions. Agricultural interests are

⁵⁷ For background information, see CRS Report 97-831, *Clean Water Act and Total Maximum Daily Loads (TMDLs) of Pollutants*.

⁵⁸ For information on the TMDL, see <http://www.epa.gov/chesapeakebaytmdl/>.

⁵⁹ Notice of the TMDL appeared in the *Federal Register* January 5, 2011. U.S. Environmental Protection Agency, "Clean Water Act Section 303(d): Notice for the Establishment of the Total Maximum Daily Load (TMDL) for the Chesapeake Bay," 76 *Federal Register* 549-550, January 5, 2011.

concerned that farm operations in the Bay watershed will be subject to more regulation than competitors in other states, putting their operations at a significant competitive disadvantage. Many of these groups have also been concerned that the underlying scientific data and modeling used by EPA to develop the TMDL does not fully reflect ongoing voluntary efforts by agriculture to reduce pollutant discharges. A lawsuit challenging EPA's authority to set pollution limits under the multistate TMDL was filed by the American Farm Bureau Federation on January 10, 2011.⁶⁰ On the other hand, environmental activists in particular are pleased that the federal government is now asserting a leadership role to restore the Bay and have supported legislation that would codify requirements for the Bay TMDL in the CWA, while authorizing grants and other assistance for implementing required measures. Companion bills to do so were introduced in the 111th Congress (S. 1816 and H.R. 3852). In June 2010, the Senate Environment and Public Works Committee approved an amended version of S. 1816. As reported, the bill generally sought to codify 2025 as a date-certain for implementing restoration actions throughout the Chesapeake Basin and would have made explicit backup authority for EPA to develop measures to restore the watershed, if states fail to do so. The legislation would have authorized to be appropriated significant financial resources, totaling \$2.26 billion over five years, to assist in implementing programs, projects, and measures for restoration of the Chesapeake Basin watershed. The House Agriculture Committee also approved separate legislation (H.R. 5509) that would have authorized an expanded role for USDA in Bay restoration. No further action was taken on either measure before the 111th Congress adjourned.

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Florida Nutrient Water Quality Standards

The CWA directs states to adopt water quality standards for their waters and authorizes EPA to promulgate new or revised standards if a state's actions fail to meet CWA requirements. Water quality standards consist of designated uses, criteria to protect the designated uses, and an antidegradation statement. They serve as the framework for pollution control measures that are specified for individual sources by states.

Status

Because of severe water quality impairment of Florida waters by nutrients (nitrogen and phosphorus) from diverse sources, including agriculture and livestock, municipal and industrial wastewater discharges, and urban stormwater runoff, EPA determined in 2009 that Florida's existing *narrative* water quality standards for nutrients must be revised in the form of *numeric* criteria that will enable Florida to better control nutrient pollution. In 2009 EPA entered into a consent decree with environmental litigants requiring the agency to promulgate numeric nutrient water quality standards for Florida. To meet the legal deadline, EPA issued the first phase of these standards on November 15, 2010, establishing standards for lakes and flowing waters in the state. The EPA rule does not establish any requirements directly applicable to regulated entities or other

⁶⁰ *American Farm Bureau Federation and Pennsylvania Farm Bureau v. U.S. EPA*, Case No. 11-cv-0067 (United States District Court for the Middle District of Pennsylvania 2011).

sources of nutrient pollution. Water quality standards do not have the force of law until the state translates them into permit limits or otherwise imposes pollution control requirements on dischargers in the state.⁶¹ In response to criticism of the proposed standards, EPA delayed the effective date of the final rule for 15 months, to allow local governments, businesses, and the state of Florida time to review the standards and develop implementation strategies. Nevertheless, separate legal challenges to the rule have been filed in federal court by environmental advocates, several industry groups, and Florida's agriculture commissioner.

The second phase of standards is due to be proposed by November 14, 2011, and finalized by August 15, 2012. They will apply to estuarine, coastal waters, and Southern Florida inland flowing waters.

Issues

While few dispute the need to reduce nutrients in Florida's waters, EPA's proposal has been controversial, involving disputes about the data underlying the proposal, potential costs of complying with numeric standards when they are incorporated into discharge permit limitations, and disputes over administrative flexibility. EPA responds that the rule is intended to ensure the health of Florida's waterways and its economy, because the types of water quality problems associated with nutrients—algae blooms that are toxic to humans, fish, and animals—have economic impacts throughout the state. EPA estimated that the potential incremental costs associated with the rule range from \$16 million to \$25 million per year, and estimated monetized benefits of \$28 million per year. Many stakeholders contend that EPA has greatly underestimated costs. Some groups also fear that EPA's actions in Florida, which represented the first time that EPA has established statewide numeric nutrient standards, will be a precedent for similar regulatory action elsewhere. For example, environmental advocacy groups have petitioned or filed lawsuits seeking to require EPA to establish numeric nutrient water quality standards in Kansas and for the Upper Mississippi River Basin. In testimony before the House Agriculture Committee on March 10, EPA Administrator Jackson stated that EPA is not working on any federal numeric nutrient limits, and the agency has developed guidance for its regional offices stating that addressing nutrient pollution is a problem best handled by states through a variety of tools.⁶²

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Spill Prevention, Control, and Countermeasure (SPCC) Plans

The Clean Water Act mandated regulations to prevent the discharge of oil from various sources.⁶³ Pursuant to this statutory requirement,⁶⁴ EPA crafted regulations for non-transportation-related

⁶¹ U.S. Environmental Protection Agency, "Water Quality Standards for the State of Florida's Lakes and Flowing Waters; Final Rule," *75 Federal Register* 75762-75807, December 5, 2010.

⁶² "EPA Nutrient Reduction Framework Urges States to Develop Plan, Schedule for Criteria," *Daily Environment Report*, March 17, 2011, p. A-16.

⁶³ Section 311(j)(1) of CWA.

facilities in 1973. Affected facilities must prepare and implement spill prevention control and countermeasure (SPCC) plans.⁶⁵ For example, SPCC regulations require secondary containment (e.g., dikes or berms) for certain oil-storage units; and plans must be certified by a Professional Engineer unless a facility owner/operator is able to self-certify the plan.

The EPA SPCC plan requirements apply to non-transportation-related facilities that drill, produce, store, process, refine, transfer, distribute, use, or consume oil or oil products;⁶⁶ and that could reasonably be expected to discharge oil to U.S. navigable waters or adjoining shorelines.⁶⁷ Facilities, including farms,⁶⁸ are subject to the rule if they meet at least one of the following capacity thresholds: an aboveground aggregate oil storage capacity greater than 1,320 U.S. gallons,⁶⁹ or a completely buried oil storage capacity greater than 42,000 U.S. gallons.

Status

Following the passage of the Oil Pollution Act of 1990,⁷⁰ EPA proposed substantial changes and clarifications to the SPCC regulations that were made final in July 2002.⁷¹ EPA has both extended the 2002 rule's compliance date (on multiple occasions) and made further amendments to the 2002 rule.⁷² Pursuant to a rule issued on October 14, 2010,⁷³ the current deadline for complying with SPCC requirements for most facilities is November 10, 2011.

Note that the July 2002 final rule and subsequent amendments did not alter the requirement for owners or operators of facilities in operation before August 16, 2002—the effective date of the 2002 final rule—to maintain and to continue implementing their SPCC plans in accordance with the SPCC regulations in effect before the 2002 rulemaking.

(...continued)

⁶⁴ And in accordance with Executive Order 11735 (August 3, 1973), granting EPA the authority to regulate non-transportation-related onshore and offshore facilities.

⁶⁵ U.S. Environmental Protection Agency, "Oil Pollution Prevention: Non-Transportation Related Onshore and Offshore Facilities," *Federal Register*, vol. 38, no. 237 (December 11, 1973), pp. 34164-34170.

⁶⁶ Per EPA SPCC regulations, "oil," means oil of any kind or in any form, including, but not limited to: petroleum; fuel oil; sludge; oil refuse; oil mixed with wastes other than dredged spoil; fats, oils or greases of animal, fish, or marine mammal origin; vegetable oils, including oil from seeds, nuts, fruits, or kernels; and other oils and greases, including synthetic oils and mineral oils. 40 C.F.R. § 112.2.

⁶⁷ Some of the definitions for the terms used to determine SPCC applicability may be subject to interpretation. For example, the definition of "navigable waters" has been a subject of debate and litigation in recent years. See CRS Report RL33263, *The Wetlands Coverage of the Clean Water Act (CWA) Is Revisited by the Supreme Court: Rapanos v. United States*.

⁶⁸ Although the definition of facility does not specifically mention farms, farms are explicitly defined as "a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during a year." See 40 C.F.R. § 112.2.

⁶⁹ Only counting containers greater than 55 gallons. 40 C.F.R. § 112.1(d).

⁷⁰ P.L. 101-380; 33 U.S.C. § 2701 *et seq.*

⁷¹ U.S. Environmental Protection Agency, "Oil Pollution Prevention and Response; Non-Transportation-Related Onshore and Offshore Facilities: Final Rule," 67 *Federal Register* 47041, July 17, 2002.

⁷² These actions were, at least in part, related to legal challenges that followed the 2002 final rule.

⁷³ U.S. Environmental Protection Agency, "Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure (SPCC) Rule - Compliance Date Amendment," 75 *Federal Register* 63093, October 14, 2010.

Issues

Some of the recent SPCC rulemakings have included provisions that would affect agricultural operations. One issue that has received recent interest is the applicability of the SPCC requirements to milk containers.⁷⁴ Pursuant to the CWA definition of oil, the SPCC requirements apply to petroleum-based and non-petroleum-based oil.⁷⁵ In a 1975 *Federal Register* notice, EPA clarified that its 1973 SPCC regulations apply to oils from animal and vegetable sources.⁷⁶ EPA has subsequently stated that “milk typically contains a percentage of animal fat, which is a non-petroleum oil” and is thus subject to SPCC provisions.⁷⁷ However, in 2009, EPA proposed a conditional exemption from SPCC requirements for milk storage units.⁷⁸ This exemption has not been finalized, but in its October 14, 2010, rule (which extended SPCC compliance for one year for most facilities), EPA provided a specific extension for facilities subject to milk storage SPCC provisions, providing an additional year extension to any final rule’s compliance date that would apply to milk units.

In some cases, EPA appears to have taken different approaches to farms over time. For example, in a December 2006 final rule, EPA decided to extend the SPCC plan compliance date for small farms (i.e., total oil storage capacity of 10,000 gallons or less) “either indefinitely or until the Agency publishes a final rule in the *Federal Register* establishing a new compliance date.”⁷⁹ EPA removed this provision in a June 2009 final rule, establishing the same compliance dates for farms as for all other facilities. In addition, in its December 5, 2008, rulemaking,⁸⁰ EPA specifically excluded farms from the loading/unloading rack requirements.⁸¹ However, in its November 2009 final rule, EPA removed this exclusion, concluding that “certain facilities (i.e., farms and oil production facilities) should not be treated differently than other facilities, even if loading/unloading racks are not typically associated with these types of facilities.”⁸²

However, the most recent substantive rulemaking, in November 2009, included some amendments that may benefit farming operations. The rule exempts pesticide application equipment and related mix containers that may currently be subject to the SPCC rule when crop oil or adjuvant oil are added to formulations. EPA also clarifies that a nurse tank is considered a mobile refueler, and, like other types of mobile refuelers, is exempt from the sized secondary

⁷⁴ As of the date of this report, Members of Congress have introduced at least one proposal addressing this issue (e.g., S. 104, introduced by Senator Johanns January 25, 2011).

⁷⁵ See CWA Section 311(a) (33 U.S.C. 1321(a)).

⁷⁶ U.S. Environmental Protection Agency, “Oil Pollution Prevention, Applicability of 40 CFR part 112 to Non-Petroleum Oils; Notice,” 40 *Federal Register* 28849, July 9, 1975.

⁷⁷ U.S. Environmental Protection Agency, “Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure Rule Requirements—Amendments,” 74 *Federal Register* 2461, January 15, 2009.

⁷⁸ *Ibid.*

⁷⁹ U.S. Environmental Protection Agency, “Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure Plan Requirements – Amendment: Final Rule,” 71 *Federal Register* 77266, December 26, 2006.

⁸⁰ On December 5, 2008, EPA amended the SPCC rule to clarify certain provisions (U.S. Environmental Protection Agency, “Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure Rule Requirements – Amendments: Final Rule,” 73 *Federal Register* 74236, December 5, 2008.). These requirements were to become effective on February 3, 2009. However, the incoming Obama Administration delayed the effective date of the December 2008 rulemaking for regulatory review.

⁸¹ 40 C.F.R. § 112.7(h).

⁸² U.S. Environmental Protection Agency, “Oil Pollution Prevention; Spill Prevention, Control, and Countermeasure (SPCC) Rule - Amendments,” 74 *Federal Register* 58784, November 13, 2009.

containment requirements. EPA estimated that the total cost savings to farm owners and operators from these (and other) amendments amount to \$13 million on an annualized basis (2007\$).⁸³

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Energy

The agricultural industry is sensitive to fluctuations in energy sources and cost. The use of petroleum-based fertilizers, diesel fuel, and, more recently, corn-based ethanol all have a significant impact on both crop and livestock operations. Since the 1970s, federal policies have offered a variety of incentives, regulations, and programs to encourage growth in the bioenergy industry as a sustainable alternative to fossil fuels.⁸⁴ The increased emphasis on agriculture-based biofuels has received mixed reviews within the agricultural community.⁸⁵ While some continue to push for greater federal involvement, critics of the federal intervention also have emerged.

The following section covers several federal regulations relating to energy, including:

- motor vehicle and heavy-duty truck greenhouse gas (GHG) rule and Corporate Average Fuel Economy (CAFE) standards;
- renewable fuels standard (RFS2) rule; and
- E15 waiver petition.

Motor Vehicle and Heavy-Duty Truck GHG Rule and Corporate Average Fuel Economy (CAFE) Standards

The Energy Policy and Conservation Act of 1975 (EPCA)⁸⁶ requires car and light truck manufacturers to meet corporate average fuel economy (CAFE) standards. The Energy Independence and Security Act of 2007 (EISA)⁸⁷ requires the National Highway Traffic Safety Administration (NHTSA) to develop rules to tighten CAFE standards and to promulgate fuel economy standards for medium- and heavy-duty trucks, reflecting the “maximum feasible improvement” in fuel efficiency.

⁸³ Ibid, p. 58805.

⁸⁴ For more information on agriculture-based biofuels, see CRS Report R41282, *Agriculture-Based Biofuels: Overview and Emerging Issues*.

⁸⁵ Examples of agriculture-based biofuels policy proponents include organizations who currently benefit directly from policies, such as the National Corn Growers Association (corn-based ethanol) and American Soybean Association (soybean-based biodiesel). Critics include organizations who rely on current biofuel sources for other non-fuel purposes, such as the National Cattleman’s Beef Association and National Pork Producers Council.

⁸⁶ P.L. 94-163.

⁸⁷ P.L. 110-140.

In response to a 2007 Supreme Court decision (*Massachusetts v. EPA*),⁸⁸ EPA is required to, among other things, determine whether GHGs from automobiles endanger public health and welfare. On December 7, 2009, EPA issued such an “Endangerment Finding.” Thus, under the Clean Air Act (CAA), EPA is required to promulgate rules on emissions of GHGs from motor vehicles. Because fuel economy and vehicle GHG emissions are tightly linked, the Administration proposed light-duty vehicle regulations in September 2009 that would integrate fuel economy and GHG rules into one process;⁸⁹ regulations for model year (MY) 2012-MY2016 were finalized in May 2010⁹⁰ and in October 2010 EPA and NHTSA announced their intent to propose similar regulations for MY2017-2025.⁹¹ On November 30, 2010, EPA and NHTSA proposed integrated GHG and fuel economy standards for medium- and heavy-duty vehicles.⁹²

Status

On May 7, 2010, EPA and NHTSA finalized rules to integrate CAFE standards with light-duty vehicle GHG standards. The Administration estimates that the rule will reduce lifecycle costs for most vehicle purchasers, as fuel savings are expected to more than offset the increase in purchase price (\$1,100). The new standards will be phased in beginning with MY2012. While the rulemaking process was combined, EPA and NHTSA have recognized that some parts of the GHG program will not translate to the CAFE program, and vice versa.⁹³

In October 2010 EPA and NHTSA announced their intent to propose further regulations for MY2017-MY2025,⁹⁴ and on January 24, 2011, EPA announced that it and NHTSA would propose MY2017-MY2025 standards in the same time frame as the state of California—by September 1, 2011.⁹⁵

EPA’s endangerment finding specifically referenced medium- and heavy-duty trucks as among sources that contribute to GHG emissions. Proposed heavy-duty truck GHG and fuel economy standards would be phased in between 2014 and 2018. EPA estimates that the rule will reduce

⁸⁸ See CRS Report RS22665, *The Supreme Court’s Climate Change Decision: Massachusetts v. EPA*.

⁸⁹ U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Proposed Rule,” 74 *Federal Register* 49454-49789, September 28, 2009.

⁹⁰ U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule,” 75 *Federal Register* 25324-25728, May 7, 2010.

⁹¹ U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards; Notice of Intent,” 75 *Federal Register* 62739-62750, October 13, 2010.

⁹² U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles; Proposed Rule,” 75 *Federal Register* 74152-74456, November 30, 2010.

⁹³ U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Proposed Rule,” 74 *Federal Register* 49468, September 28, 2009.

⁹⁴ U.S. Environmental Protection Agency and National Highway Traffic Safety Administration, “2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards; Notice of Intent,” 75 *Federal Register* 62739-62750, October 13, 2010.

⁹⁵ U.S. Environmental Protection Agency, *EPA, DOT and California Align Timeframe for Proposing Standards for Next Generation of Clean Cars*, Washington, DC, January 24, 2011, <http://yosemite.epa.gov/opa/admpress.nsf/1e5ab1124055f3b28525781f0042ed40/6f34c8d6f2b11e5885257822006f60c0>.

lifecycle vehicle costs, factoring in the fuel savings and increase in purchase price.⁹⁶ EPA estimates that, because of fuel savings, most truck owners would see a payback period of one to five years.⁹⁷ In their Rulemaking Gateway, EPA projects completion of the final rule by August 2011.⁹⁸

Issues

This issue has a somewhat indirect effect on agriculture. The fact that vehicle purchase prices are expected to increase may affect agricultural producers who purchase cars, light trucks, and heavy trucks for use in their businesses (including light-duty and super-duty pickups, vans, and flatbed trucks). While for most purchasers those increases will be offset by lower fuel expenditures over the lifetime of these vehicles, the increase in up-front costs may influence some agricultural producers' decisions to purchase new vehicles notwithstanding the expected lifecycle cost savings. The proposed heavy-duty rules do not directly apply to non-road engines and equipment, but because many heavy-duty diesel engines are used in both on-road and non-road applications (including farm equipment), some stakeholders are concerned that compliance with rules could raise the cost of diesel engines in general.

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Renewable Fuels Standard (RFS2) Rule

The Energy Independence and Security Act (EISA) expanded the renewable fuel standard (RFS) established in the Energy Policy Act of 2005.⁹⁹ The RFS requires a significant growth in U.S. biofuel use. In 2011, the RFS mandate is 13.95 billion gallons of biofuels from various sources (consisting mostly of ethanol from corn starch). By 2022, EISA will require that 36 billion gallons of biofuel be used in the nation's fuel supply. Within the larger RFS, EISA mandates the growing use of advanced biofuels (i.e., non-corn starch biofuels), including fuels produced from cellulosic feedstocks. By 2022, the advanced biofuels mandate grows to 21 billion gallons, including 16 billion gallons of cellulosic biofuel.¹⁰⁰

EISA also requires that advanced biofuels—e.g., cellulosic biofuels, biomass-based diesel substitutes, and other advanced biofuels—as well as conventional biofuels from newly built refineries, meet certain lifecycle GHG reduction requirements.¹⁰¹ EPA is required to classify

⁹⁶ In MY2008, EPA estimates a purchase price increase of \$400 for vocational trucks, \$1,400 for heavy-duty pickups and vans, and \$6,200 for combination tractors (tractor-trailers).

⁹⁷ U.S. Environmental Protection Agency, EPA and NHTSA Propose First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles: Regulatory Announcement, EPA-420-F-10-901, Washington, DC, October 2010, <http://www.epa.gov/otaq/climate/regulations/420f10901.htm>.

⁹⁸ <http://yosemite.epa.gov/oepi/rulegate.nsf/byRIN/2060-AP61>, accessed January 26, 2011.

⁹⁹ P.L. 109-58.

¹⁰⁰ For more information, see CRS Report R40168, *Alternative Fuels and Advanced Technology Vehicles: Issues in Congress*.

¹⁰¹ For more information, see CRS Report R40460, *Calculation of Lifecycle Greenhouse Gas Emissions for the* (continued...)

biofuel production based on their lifecycle emissions, including emissions from direct and indirect changes in land use. Only fuels that achieve a 50% reduction in GHG emissions relative to petroleum fuels may be classified as advanced biofuels. Cellulosic biofuels must achieve at least a 60% GHG emission reduction, while fuels from new corn ethanol plants must achieve a 20% GHG emission reduction—corn ethanol plants in existence or under construction when EISA was enacted (December 19, 2007) are grandfathered.

Status

On February 3, 2010, EPA finalized new rules for the expanded renewable fuel standard (RFS2).¹⁰² These rules were effective July 1, 2010, but covered biofuel production for all of 2010. In 2011, the RFS2 requires the use of 13.95 billion gallons of ethanol and other biofuels in transportation fuel. Within the larger mandate, the RFS2 requires the use of 1.35 billion gallons of advanced biofuels (fuels other than corn starch ethanol) in 2010, including 6.6 million gallons of cellulosic biofuels. Within the rules, EPA finalized procedures for fuel suppliers to generate credits under the system—credits that can be sold or traded. EPA also finalized methodologies for determining lifecycle GHG emissions.

Issues

The RFS has been a major policy supporting the development of U.S. biofuels industries, especially for corn-based ethanol producers. Many believe that the expanded RFS2 will be the main pillar of support for existing U.S. biodiesel production capacity (due to the uneconomical nature of U.S. biodiesel production). In future years, as the advanced biofuel mandates grow, the RFS could be the key driver for the development of biofuels from cellulose, algae, and other non-food/feed commodities.

RFS expansion could lead to concomitant pressure on limited agricultural resources (most notably land) as feedstock production intensifies on existing cropland and expands onto new, marginal lands. This may raise the general price level for those commodities that compete for the affected cropland, as well as having important secondary effects in related agricultural markets, including livestock feed markets and agricultural input markets. As a result, the potential for unintended consequences (e.g., land use, commodity prices) in non-biofuels markets could increase.

Expanding cultivation onto marginal lands (including reclaimed Conservation Reserve Program acres) and more intensive cultivation (including increased water, pesticide, and fertilizer use) on existing cropland is expected to put new pressures on environmental resources. This could also put substantial pressure on the agricultural research infrastructure to develop technologies or techniques that enhance per-acre productivity in an effort to mitigate unintended price pressures and secondary market effects.

(...continued)

Renewable Fuel Standard (RFS).

¹⁰² Environmental Protection Agency, *Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program*, EPA-HQ-OAR-2005-0161, Washington, DC, February 3, 2010, <http://www.epa.gov/otaq/renewablefuels/rfs2-preamble.pdf>.

The clearest example of increasing pressure on resources (with unintended consequences) is the rapid growth of corn use for ethanol production. During the 2005/2006 crop year, corn ethanol production used 1.6 billion bushels of corn, or about 14.4% of U.S. production. This usage share has grown in lockstep with the RFS mandate. In the current 2010/2011 crop year, corn ethanol production is expected to approach 12 billion gallons, while consuming over 4.9 billion bushels, or nearly 40% of the 2011 corn harvest.¹⁰³ While U.S. corn production has expanded and is expected to continue to expand (primarily due to continued yield growth, as corn area expansion is thought to be very near its sustainable maximum), corn use for ethanol has expanded even faster. As a result, corn prices have moved steadily higher. The 2005/2006 crop year farm price for corn was \$2.00 per bushel. The farm price of corn was \$4.20 per bushel in 2007/2008 and \$4.06 in 2008/2009, and is projected at \$5.30 in 2010/2011.¹⁰⁴ Corn is the primary feed ingredient used by the U.S. livestock sector, representing over 90% of all grains consumed, and about 57% of all grains and feed concentrates consumed annually. As the price of corn rises, the entire feed complex price structure has risen, putting a cost squeeze on the U.S. livestock sector. In the long run, an intensification of this pressure could lead to regional shifts in comparative advantage of certain livestock production activities that could increasingly favor proximity to corn ethanol plants for access to the co-product distiller's dried grains and solubles.

As corn ethanol production grows to 15 billion gallons by 2015, it may continue to compete with other corn users and keep upward pressure on commodity prices. If the unintended consequences of RFS expansion are sufficiently large or dramatic as some have suggested,¹⁰⁵ policymakers may experience pressure to waive future RFS mandates.

Another key issue is the role of cellulosic biofuels in the RFS2. Cellulosic biofuels are in their infancy, and no commercial-scale refineries have begun operation as of early 2011.¹⁰⁶ Because of this, EPA had to use its waiver authority under EISA to reduce the mandated 2010 level for cellulosic biofuels from 100 million gallons to 6.5 million gallons (a decrease of over 90%). For 2011, EPA reduced the cellulosic mandate from 250 million gallons (as scheduled in EISA) down to 6.6 million gallons.¹⁰⁷ If commercial capacity does not come online rapidly, EPA may need to issue another waiver in 2012 (the cellulosic mandate is scheduled at 500 million gallons). It is unclear what effect the delays in implementing the cellulosic biofuel mandate will have on investment and in the development of the cellulosic biofuel industry.

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¹⁰³ World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates (WASDE)*, January 12, 2011.

¹⁰⁴ Mid-point of the projected season average farm price range of \$4.90 to \$5.70 per bushel, *WASDE*, January 12, 2011.

¹⁰⁵ In April 2008, Texas Governor Rick Perry wrote the EPA seeking a waiver from the federal ethanol mandate, noting its contribution to higher food prices and dire impact on the cattle industry. The waiver request was denied.

¹⁰⁶ For more information, see CRS Report RL34738, *Cellulosic Biofuels: Analysis of Policy Issues for Congress*.

¹⁰⁷ Environmental Protection Agency, "Regulation of Fuels and Fuel Additives; 2011 Renewable Fuel Standards," 75 *Federal Register* 76790-76830, December 9, 2010.

E15 Waiver Petition

By 2022, EISA requires the use of 36 billion gallons of renewable fuels, and much of this could be ethanol from a variety of feedstocks (many of which are agricultural-based; see “Renewable Fuels Standard (RFS2) Rule” discussion, above). However, there is an obstacle to the use of this quantity of ethanol in gasoline. Currently, although some ethanol is sold as an alternative fuel (E85), most is sold as an additive in conventional and reformulated gasoline. Until recently, the amount of ethanol that could be blended into gasoline for all uses was limited to 10% by volume (E10) pursuant to EPA guidance under the CAA, as well as by vehicle and engine warranties, and certification procedures for fuel-dispensing equipment.

As the RFS is structured, assuming that most of the mandate is met using ethanol, the volume of ethanol blended in gasoline is limited by gasoline consumption. In 2012, the RFS will require over 15 billion gallons of renewable fuel, while projected gasoline consumption in 2012 is slightly less than 150 billion gallons. After 2012, the renewable fuel mandate will continue to increase. However, a limit of 10% ethanol means that ethanol for gasoline blending (not including E85) likely cannot exceed 15 billion gallons per year.¹⁰⁸ This “blend wall” is the maximum possible volume of ethanol that can be blended into U.S. motor gasoline. The actual limit could be lower, since older fuel tanks and pumps at some retail stations may not be equipped to handle ethanol-blended fuel.¹⁰⁹

Status

On March 6, 2009, Growth Energy (on behalf of 52 U.S. ethanol producers) applied to EPA for a waiver from the CAA limitation on ethanol content in gasoline. Until recently, ethanol content in gasoline for all uses was capped at 10% (E10); the application requested an increase in the maximum concentration to 15% (E15). If fully granted, the waiver would allow the use of significantly more ethanol in gasoline than is currently permitted.

On November 4, 2010, EPA granted a partial waiver allowing the use of E15 in MY2007 and newer vehicles.¹¹⁰ The agency delayed a decision on MY2001-MY2006 vehicles until the Department of Energy completed testing of those vehicles. On January 21, 2011, EPA announced that the waiver would be expanded to include MY2001-MY2006 vehicles.¹¹¹ EPA determined that data were insufficient to address concerns that had been raised over emissions from MY2000 and older vehicles, as well as heavy-duty vehicles, motorcycles, and non-road applications (including farm equipment), and thus a waiver for these vehicles/engines was denied. EPA has noted that granting the waiver eliminates only one impediment to the use of E15—other factors, including retail and blending infrastructure (including gasoline storage tanks and pumps), state and local laws and regulations, and manufacturers’ warranties, would still need to be addressed. Because of

¹⁰⁸ The practical limitation is likely lower, perhaps 13 to 14 billion gallons.

¹⁰⁹ For more information see CRS Report R40445, *Intermediate-Level Blends of Ethanol in Gasoline, and the Ethanol “Blend Wall”*.

¹¹⁰ Environmental Protection Agency, “Partial Grant and Partial Denial of Clean Air Act Waiver Application Submitted by Growth Energy to Increase the Allowable Ethanol Content of Gasoline to 15 Percent; Decision of the Administrator; Notice,” *75 Federal Register* 68094-68150, November 4, 2010.

¹¹¹ Environmental Protection Agency, “Partial Grant of Clean Air Act Waiver Application Submitted by Growth Energy to Increase the Allowable Ethanol Content of Gasoline to 15 Percent; Decision of the Administrator,” signed January 21, 2011 (awaiting publication in the *Federal Register*).

concerns over potential damage by E15 to equipment not designed for its use, this partial waiver has been challenged in court by a group of vehicle and engine manufacturers.¹¹² On February 19, 2011, the House adopted an amendment to H.R. 1 (H.Amdt. 156) that would block EPA from using FY2011 funds to implement the agency's waiver decision.

Issues

EPA approval of the waiver request could help open the door to E15 blending. This could be a strong signal to the biofuels industry concerning federal support for meeting and enforcing RFS mandate levels. As a result, this could help to stimulate new investment in the biofuels sector. In the short run, the corn ethanol industry would be the main beneficiary, since it is best able to respond to the expanding RFS mandates. Any further increase in corn ethanol use would benefit corn producers. The net result would be an intensification of agricultural resource use with the same consequences discussed previously (see "Renewable Fuels Standard (RFS2) Rule").

The ability to address concerns over the use of E15 in legacy equipment (both infrastructure and vehicles) will affect the rollout of E15 to retail stations. As noted above, EPA's decision to allow E15 in some vehicles only addresses one part of the blend wall. State laws and regulations, vehicle and equipment certifications and warranties, and questions over fuel suppliers willingness to market the fuel could all be impediments to an expansion of E15 use. The result of equipment manufacturers' legal challenge to the partial waiver will be a key factor.

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Chemicals

Agricultural "pests" can interfere with the production of crops and livestock used for food and fiber. Pests may include insects, plant pathogens, weeds, and vertebrates. If in abundance, pests may affect crop yield and cause a decline in quality. Hundreds of chemical products are available to repel or kill pests that affect agricultural production. Each uses different active ingredients, has a different potency, and has a different impact on human health and the environment. The federal regulation of these chemicals includes registering and restricting their use.

The following section covers four federal regulations relating to chemicals, including:

- disclosure of pesticide inert ingredients;
- Clean Water Act permits for pesticide application;

¹¹² The Alliance of Automobile Manufacturers (Alliance), the Association of International Automobile Manufacturers, Inc. (AIAM), the National Marine Manufacturers Association (NMMA), and the Outdoor Power Equipment Institute (OPEI). OPEI, Fact Sheet: E-15 Partial Waiver Legal Challenge, December 17, 2010. The case is *Alliance of Automobile Manufacturers et. al v. Environmental Protection Agency*.

- pesticide drift labeling;
- Atrazine; and
- the Endangered Species Act (ESA).

Disclosure of Pesticide Inert Ingredients

Pesticide products generally contain active ingredients that are intended to control targeted pests as well as inert ingredients that are included to dilute the active ingredients, increase their ability to penetrate or adhere to leaf surfaces, or otherwise aid in the distribution and effectiveness of the pesticide product. Inert ingredients are not “active ingredients,” but they are not necessarily chemically inert. Some inerts are potentially toxic or otherwise hazardous.

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) directs EPA to regulate the sale and use of pesticide products and pesticide labels by establishing requirements for pesticide labels. Use of a pesticide in a manner that is inconsistent with label instructions is a violation of FIFRA. One requirement for pesticide labels is a listing of active ingredients. No listing is required for most inert ingredients, but labels must indicate the total percentage of the product that is inert.

EPA has received two petitions requesting disclosure of certain potentially hazardous inert ingredients on pesticide labels. One petition was from 22 nongovernmental organizations, while the other was from the attorneys general of 15 U.S. states and territories. The petitioners requested that EPA require disclosure of certain inert ingredients that have been designated as hazardous under other environmental statutes. In response to the petitions, EPA is considering regulatory and voluntary options for providing information to the public about the identities of inert ingredients in pesticide products. According to EPA, it has the authority to require disclosure if the Administrator “determines that such ingredient(s) may pose a hazard to man or the environment.”¹¹³ In 1987, EPA required disclosure on pesticide labels of the identities of approximately 50 “inerts of toxicological concern.”¹¹⁴ A future rulemaking might expand this disclosure requirement to hundreds of additional chemicals and mixtures.

Status

EPA issued an advanced notice of proposed rulemaking on December 23, 2009.¹¹⁵ Comments on options for providing public information closed on April 23, 2010. In the fall 2010 Regulatory Agenda, EPA classified this rulemaking as a “Long Term Action,” suggesting that action is not imminent. The agenda also indicated that a regulatory analysis will accompany any proposed rule.¹¹⁶

¹¹³ 40 C.F.R. § 156.10(g)(7).

¹¹⁴ U.S. Environmental Protection Agency, *52 Federal Register* 13305, April 22, 1987.

¹¹⁵ U.S. Environmental Protection Agency, “Public Availability of Identities of Inert Ingredients in Pesticides,” *74 Federal Register* 68215-68223, December 23, 2009.

¹¹⁶ EPA classified the rule as “Other Significant” which means that although it is not expected to have “major” economic effects, it will be scrutinized in accord with various executive orders concerning regulatory review (Unified Regulatory Agenda, Fall 2010, Dec. 20, 2010, p. 303, <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OA-2010-1069-0001>.)

Issues

Pesticide manufacturers often claim the identities of inert ingredients to be proprietary, and disclose them only to EPA and its contractors under a “confidential business information” agreement. Sometimes even the registrants of pesticide formulations are not told the identities of proprietary ingredients or mixtures supplied by manufacturers. EPA and the petitioners believe that registrants and consumers should be able to ascertain whether the products they use contain potentially hazardous ingredients. With such information, many believe the market should operate more efficiently by allowing formulators and consumers to choose products that include or exclude such ingredients rather than relying on government regulators to determine what ingredients are safe. EPA has announced that it is committed to improving public availability of such information to assist consumers and users of pesticides in making informed decisions and to reduce the presence of potentially hazardous ingredients in pesticides. After EPA required disclosure of 50 inerts in 1987, most of them were removed from pesticide products.¹¹⁷ On the other hand, pesticide manufacturers might object to disclosure if it would reveal information deemed to be proprietary, lead to loss of sales, or jeopardize market advantage relative to competitors. This issue could be of interest to the agriculture community given the use of pesticide products by producers.

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Clean Water Act Permits for Pesticide Application

For the more than 30 years since Congress enacted the Clean Water Act (CWA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), little apparent direct conflict existed between the two laws. EPA’s operating principle during that time was that pesticides used according to the requirements of FIFRA do not require regulatory consideration under the CWA. EPA had never required CWA permits for use of FIFRA-approved materials, and EPA rules did not specifically address the issue.¹¹⁸

Recently, however, EPA’s interpretation and operating practice were challenged in several court cases. At issue has been how FIFRA-approved pesticides that are sprayed over or into waters are regulated and, specifically, whether the FIFRA regulatory regime is sufficient alone to ensure protection of water quality or whether such pesticide application requires approval under a CWA permit. The issue arose initially over challenges to some routine practices in the West (weed control in irrigation ditches and spraying for silvicultural pest control on U.S. Forest Service lands). It drew more attention in connection with efforts by public health officials to combat mosquito-borne illnesses such as West Nile virus. The litigation created uncertainty over whether application of pesticides and herbicides to waterbodies requires a CWA water discharge permit.

¹¹⁷ U.S. Environmental Protection Agency, “Public Availability of Identities of Inert Ingredients in Pesticides,” 74 *Federal Register* 68217, December 23, 2009.

¹¹⁸ For more information on pesticide use and water quality, see CRS Report RL32884, *Pesticide Use and Water Quality: Are the Laws Complementary or in Conflict?*.

Status

EPA tried to promulgate policy to clarify the relationship of the two laws and to address conflicts resulting from several judicial rulings, ultimately in a regulation issued in November 2006 that attempted to specify circumstances in which pesticides applied to U.S. waters do not require CWA permits. That rule was challenged by multiple parties, and in January 2009, a federal appellate court vacated the rule.¹¹⁹ As a result, persons who spray pesticides on or near water are now required to obtain a CWA permit.

The federal court's ruling appeared to leave little room for EPA to fashion a new rule consistent with the agency's long-standing view that FIFRA-compliant applications do not require CWA permits. Industry groups subsequently petitioned the Supreme Court to review the case, but the Court denied the petition on February 22, 2010. Legislation intended to nullify the 2009 federal court ruling was introduced in the 111th Congress, but no further legislative action occurred.

The federal government did not seek a rehearing of the case. Instead, the government petitioned the court for a two-year stay of the order, to give EPA time to work with states and the regulated community to develop a general permit for pesticide applications covered by the decision (in lieu of individual permits). The court granted EPA's request in June 2009. As a result, the court's ruling is scheduled to take effect on April 9, 2011. EPA proposed a draft permit in compliance with the court's order June 4, 2010.¹²⁰ When the general permit is issued, EPA estimates that the universe of affected activities that for the first time will be subject to CWA permits is approximately 5.6 million applications annually, which are performed by 365,000 applicators covering four use patterns: (1) mosquito and other flying insect pest control; (2) aquatic weed and algae control; (3) aquatic nuisance animal control; and (4) forest canopy pest control. The permit will cover about 500 different pesticide active ingredients that are contained in approximately 3,700 product labels.

The draft permit applies to a variety of entities, including agricultural interests involved in crop and timber tract production, forest nurseries, and operating irrigation systems; pesticide and agricultural chemical manufacturing; mosquito or other vector control districts and commercial applicators that service them; utilities (e.g., electric power, natural gas, water supply and wastewater); and government agencies and departments engaged in air and water resource management and conservation. It requires all operators to minimize pesticide discharges to waters by practices such as using the lowest effective amount of pesticide product that is optimal for controlling the target pest. It also requires operators to prepare pesticide discharge management plans to document their pest management practices. Permittees must monitor for observable adverse effects in the treatment area and where the pesticides are discharged to U.S. waters. The permit will not cover agricultural stormwater runoff or irrigation return flow, as these discharges are statutorily exempt from CWA permitting, and it also will not cover terrestrial application to control pests on agricultural crops or forest floors. The EPA general permit will apply in states and areas where EPA is the NPDES permitting authority, but it is expected to be a model for other states to develop their own general permits.¹²¹

¹¹⁹ *National Cotton Council of America v. U.S. Environmental Protection Agency*, 553 F.3d 927 (6th Cir. 2009).

¹²⁰ EPA had expected to issue the final permit in December 2010, but this did not occur. According to the Office of Management and Budget's website, the permit was submitted to OMB for review on December 22, 2010.

¹²¹ The CWA authorizes EPA to delegate NPDES permitting authority to qualified states, and EPA has done so for the majority of states. For this permit, EPA will be the permitting authority in Massachusetts, New Mexico, Oklahoma, (continued...)

When EPA proposed the draft permit in June 2010, EPA indicated that it would issue the final permit by December, in order to meet the court's April 9, 2011, deadline. However, on March 3, the government asked the court to grant an additional stay—until October 31—of the effective date of the court's ruling, because the agency is still completing work on the final permit. The court has not yet acted on the government's request for a delay. Meanwhile, in March, two House committees approved legislation (H.R. 872) that is intended to overturn the court's 2009 ruling by exempting aerial pesticide application activities from clean water permit requirements.

Issues

General permits cover categories of point sources that have common elements and that discharge the same types of wastes. They allow the permitting authority to allocate resources efficiently, especially when there is a large number of potential permittees. Permitting procedures are streamlined and simplified, compared with CWA individual permits. Still, many agricultural industry groups are fearful that the court's ruling and EPA's general permit will lead to more burdensome and potentially costly requirements.

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Pesticide Drift Labeling

State agencies and EPA receive numerous complaints every year claiming harm (or risk) to beneficial insects or to human health from exposure to pesticides that have drifted beyond the fields targeted for application. Current federal and state regulations aim to protect agricultural workers and non-target animals and plants, but opinions differ about the adequacy of such regulations. Drift issues were addressed in recent years by an EPA advisory committee of stakeholders, which recommended revisions to pesticide product labels to improve clarity and consistency, making the label instructions more comprehensible for applicators and facilitating enforcement by states. EPA issued proposed guidance in response to these recommendations.¹²²

Pesticide drift is also the subject of a citizen petition received by EPA on October 13, 2009. Earthjustice, Farmworker Justice, and several other organizations requested that EPA assess exposure of children to pesticide drift and incorporate this information into risk assessments in support of registration decisions. They also requested interim prohibitions on the use of certain pesticides near homes, schools, and other places where children congregate.

(...continued)

Alaska, Idaho, and the District of Columbia and for certain tribal lands.

¹²² EPA, Pesticide Spray and Dust Drift, December, 2009, <http://www.epa.gov/pesticides/factsheets/spraydrift.htm>.

Status

EPA issued the proposed labeling guidance and requested public comments on the citizen petition on November 4, 2009. The original periods for public comment on the labeling proposal and the petition were extended, but the comment periods ended March 5, 2010.

Issues

Some public health advocacy groups argue that the proposed label changes are “too little, too late.” Nevertheless, bee-keepers and some state enforcement officials urge rapid adoption of the label changes. Thirty-eight congressional representatives signed a letter dated November 20, 2009, asking EPA to require no-spray buffer zones for drift-prone pesticides of at least 60 feet for ground applications and 300 feet for aerial applications from homes, schools, parks, day care centers, and other places where children may congregate.¹²³

On the other hand, some producers, pesticide applicators, and agricultural groups argue that the proposed label language is too vague and would invite litigation. For more than a year, according to lawyers for pesticide producers,

[EPA] has maintained its position that its policies will define unallowable drift to be that which “may cause” harm from the pesticide—which the users and registrants of pesticides believe to be an extreme (and not authorized) extension of the current FIFRA standard of “does not cause unreasonable risk.” This distinction is more than semantics, since the criticism of EPA’s position is that it would provide for a subjective standard placing [a] user of pesticide who followed every label instruction in jeopardy of a possible enforcement action even if “harm” has not occurred. The debate has been going on for years, and EPA has attempted to reassure critics that no new, more restrictive, standard is being imposed.¹²⁴

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Atrazine

Atrazine, a herbicide in use for at least 50 years, is one of the most widely used agricultural pesticides in the United States today.¹²⁵ It is used primarily on corn and sorghum in the Midwest. Atrazine is particularly useful for controlling broadleaf and grassy weeds in fields where no-till or low-till methods are employed to reduce topsoil erosion. These and other uses of atrazine are licensed by EPA, which registers pesticide active ingredients, as well as formulated products, for specified uses under specified conditions under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug and Cosmetic Act (FFDCA). The latter law applies only to pesticides used on food and animal feed crops. For more information about

¹²³ Letter from Rep. Keith Ellison, Member of Congress, Rep. Raul Grijalva, and Rep. Donna Christensen, Member of Congress, et al. to Lisa Jackson, U.S. Environmental Protection Agency Administrator, EPA-HQ-OPP-2009-0628-0015, November 20, 2009, <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2009-0628-0015>.

¹²⁴ Bergeson & Campbell, Commentary, “2011 Predictions for EPA’s Office of Chemical Safety and Pollution Prevention,” Jan. 3, 2011, <http://www.lawbc.com/news/docs/2011/01/010311-fedreg.htm>.

¹²⁵ Atrazine is the common name for 6-chloro-N2-ethyl-N4-isopropyl-1,3,5-triazine-2,4-diamine.

pesticide laws, see CRS Report RL31921, *Pesticide Law: A Summary of the Statutes*. Recommended rates of application and other conditions of atrazine use are specified on the EPA-approved labels of various formulated pesticide products. It is illegal to use any pesticide product in a manner inconsistent with label instructions.

Widespread and relatively heavy use of atrazine, its persistence in the environment, reports of atrazine contamination of surface and drinking water,¹²⁶ and scientific studies indicating that exposure to atrazine might disrupt the normal action of hormones in animals¹²⁷ have prompted EPA's pesticide office to review atrazine registration more frequently than it has reviewed most other pesticide registrations. Scrutiny of atrazine began at least 20 years ago, and has continued, as new scientific hypotheses and studies have developed. For example, in November 1994, EPA initiated a "Special Review" of the potential risks posed by atrazine and related triazine pesticides to agricultural workers and to drinking water consumers.¹²⁸ This review is ongoing in February 2011. EPA issued a re-registration eligibility decision (RED) for atrazine April 6, 2006.¹²⁹

In recent years, many scientific studies have been published indicating possible risks posed by atrazine to animals, as well as to human health. In addition, new monitoring data collected in the Midwest by Syngenta, a major manufacturer of atrazine, recently became available for analysis. In response, EPA announced October 7, 2009,¹³⁰ that it would again re-evaluate atrazine research. On the basis of its review, EPA will decide whether further regulatory restrictions are necessary to prevent unreasonable effects on human health or the environment. EPA called for the assistance of its FIFRA Scientific Advisory Panel (SAP) to review the agency's plans for evaluating human epidemiological studies as well as studies of laboratory animals and wildlife.

Status

On November 3, 2009, EPA presented its plan for the atrazine reevaluation to the SAP.¹³¹ In 2010, the agency held three SAP meetings to address atrazine issues. In summer 2011, another peer review is planned concerning the findings of the Agricultural Health Study, a large epidemiological study of agricultural workers and their families. That study is evaluating the potential association between human atrazine exposure and cancer risk.¹³² According to EPA, "[t]he SAP's recommendations will help EPA determine the appropriate next steps in the Special

¹²⁶ Jack E. Barbash, Gail P. Thelin, Dana W. Kolpin, and Robert J. Gilliom, *Distribution of Major Herbicides in Ground Water of the United States*, U.S. Geological Survey, Water-Resources Investigations Report 98-4245 Sacramento, California, 1999, <http://water.usgs.gov/nawqa/pnsp/pubs/wrir984245/wrir984245.pdf>.

¹²⁷ U.S. Geological Survey, "Commonly Used Herbicide Adversely Affects Fish Reproduction," USGS Newsroom, http://www.usgs.gov/newsroom/article.asp?ID=2467&from=news_side.

¹²⁸ Richard P. Keigwin, Jr., Director, EPA Pesticide Re-evaluation Division, EPA response to Szmuszkovicz letter regarding the special review status of EPA's current Atrazine review, Aug. 13, 2010, <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2003-0367-0191>. Hereafter cited as Keigwin.

¹²⁹ EPA, Decision Documents for Atrazine, April 6, 2006, http://www.epa.gov/oppsrrd1/REDS/atrazine_combined_docs.pdf.

¹³⁰ U.S. Environmental Protection Agency, "Atrazine Updates," current as of March 2011, http://www.epa.gov/oppsrrd1/reregistration/atrazine/atrazine_update.htm.

¹³¹ EPA, U.S. Environmental Protection Agency Presentation of the Approach to Reevaluate Atrazine, Nov. 3, 2009, <http://www.epa.gov/scipoly/sap/meetings/2009/november/110309meetingtranscripts.pdf>.

¹³² For more information on the Agricultural Health Study, see <http://www.aghealth.nci.nih.gov/>.

Review regarding cancer and drinking water issues.”¹³³ The conclusions of the SAP also might influence EPA’s risk assessment of atrazine and subsequent reregistration decisions.

Issues

Some policymakers and industry leaders are concerned about the continuing reviews of atrazine and similar herbicides. Chemical producers, distributors, and users are concerned that these reviews may lead to new restrictions or cancellation of pesticide uses. The potential cost to growers and consumers if EPA would cancel or restrict registration for atrazine could be considerable. On the other hand, public health advocates, some consumers of drinking water, and advocates for environmental protection have argued that new restrictions on atrazine uses should be considered and may be warranted if current regulations do not ensure with a reasonable certainty that atrazine use on food will pose no harm to human health and that atrazine use in general will not pose an unreasonable risk to the environment.

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Endangered Species Act (ESA)

The Endangered Species Act (ESA)¹³⁴ protects species identified as endangered or threatened with extinction and attempts to protect the habitat on which they depend. It is administered primarily by the Fish and Wildlife Service (FWS), and by the National Marine Fisheries Service (NMFS) for certain marine and anadromous species. Dwindling species are listed as either endangered or threatened according to assessments of the risk of their extinction. Once a species is listed, legal tools are available to aid its recovery and to protect its habitat. The ESA can become the visible focal point for underlying situations involving the allocation of scarce or diminishing lands or resources, especially in instances where societal values may be changing, such as for the forests of the Pacific Northwest, the waters of the Klamath River Basin, or the polar environment.

Status

In the case of agriculture, actions of some federal agencies may affect a very wide area or a region and have the potential to affect many listed species. Perhaps the most widely known of such agency actions is the registration and use of pesticides, such as those described in the “Pesticide Drift Labeling” section, above. Where a substance can flow or be blown well outside its area of use, EPA would need to consult on registration of the new pesticide, and on any restrictions on its use (such as total area, weather conditions, distance from a particular habitat type, etc.). From December 2008 to May 4, 2009, somewhat broader regulations were in effect that were intended, among other things, to “narrow the circumstances when Federal agencies are

¹³³ Keigwin, *ibid.*

¹³⁴ Act of December 28, 1973, P.L. 93-205, 87 Stat. 884, 16 U.S.C. §§ 1531-1544. For a more detailed discussion of ESA and its structure, see CRS Report RL31654, *The Endangered Species Act: A Primer*.

required to consult with the Services [FWS or NMFS].”¹³⁵ The temporary change might have allowed agencies such as EPA to carry out formal consultation internally; the change, while offering the potential for speed or streamlining, was criticized as likely to create internal conflicts of interest within the action agencies.¹³⁶

Issues

For activities on privately owned land such as farms and ranches, the primary direct impact of the ESA is through the law’s prohibitions on taking of listed species. The word *take* means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”¹³⁷ Thus, such activities as cutting down a tree that contains the nestlings of an endangered bird would constitute a taking. Plants have substantially less protection under the ESA, so removing an endangered plant on private land would trigger an ESA violation only under extremely limited circumstances.¹³⁸

If federal actions (or actions of non-federal parties that require a federal approval, permit, or funding) might adversely affect a listed species as determined by FWS (or NMFS, depending on the species), the federal action agencies must complete a biological assessment.¹³⁹ The assessment is used to determine whether formal consultation is necessary.¹⁴⁰ Through consultation with either FWS or NMFS, federal agencies must ensure that their actions are “not likely to jeopardize the continued existence” of any endangered or threatened species, nor to adversely modify critical habitat.¹⁴¹ This is referred to as a Section 7 consultation. “Action” includes any activity authorized, funded, or carried out by a federal agency, including permits and licenses.

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¹³⁵ Fish and Wildlife Service and National Marine Fisheries Service, “Interagency Cooperation Under the Endangered Species Act,” 74 *Federal Register* 20421-20423, May 4, 2009. The change amended 50 C.F.R. § 402.

¹³⁶ For more on the temporary change and issues surrounding its issuance and withdrawal, see CRS Report RL34641, *Changes to the Consultation Regulations of the Endangered Species Act (ESA)*.

¹³⁷ 16 U.S.C. § 1532. Harassment and harm are further defined by regulation at 50 C.F.R. § 17.3.

¹³⁸ See 16 U.S.C. § 1538(a)(2).

¹³⁹ 16 U.S.C. § 1536(c).

¹⁴⁰ 50 C.F.R. § 402.12(a). Informal consultations are also important, and may be as simple as a federal official of one agency calling an FWS or NMFS official to describe a small project and to find out whether there are any listed species in the vicinity.

¹⁴¹ 16 U.S.C. § 1536(a).

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