

requirements in regard to carbon dioxide (CO₂) emissions.

On September 29, 2011, the Administrator issued an Administrative Order denying the Petition. The Order explains the reasons behind EPA's conclusions.

Dated: October 19, 2011.

James B. Martin,

Regional Administrator, Region 8.

[FR Doc. 2011-27725 Filed 10-25-11; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

[FRL-9483-2]

Clean Air Act Operating Permit Program; Petition for Objection to State Operating Permit for Public Service Company of Colorado dba Xcel Energy—Cherokee Power Station

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of final action.

SUMMARY: This document announces that the EPA Administrator has responded to a citizen petition asking EPA to object to an operating permit issued by the Colorado Department of Public Health and Environment (CDPHE). Specifically, the Administrator has denied the April 1, 2010, Petition, submitted by WildEarth Guardians (Petitioner), to object to CDPHE's April 1, 2010, title V permit issued to Public Service Company of Colorado dba Xcel Energy (Xcel)—Cherokee Power Station.

Pursuant to section 505(b)(2) of the Clean Air Act (Act or CAA), Petitioners may seek judicial review of those portions of the petition that EPA denied in the United States Court of Appeals for the appropriate circuit. Any petition for review shall be filed within 60 days from the date this notice appears in the **Federal Register**, pursuant to section 307 of the Act.

ADDRESSES: You may review copies of the Final Order, the Petition, and other supporting information at the EPA Region 8 Office, 1595 Wynkoop Street, Denver, Colorado 80202-1129. EPA requests that if at all possible, you contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section to view the copies of the Final Order, the Petition, and other supporting information. You may view the hard copies Monday through Friday, 8 a.m. to 4 p.m., excluding Federal holidays. If you wish to examine these documents, you should make an appointment at least 24 hours in advance. Additionally,

the Final Order for Public Service Company of Colorado—Cherokee Power Station is available electronically at: http://www.epa.gov/region07/air/title5/petitiondb/petitions/xcel_cherokee_response2011.pdf.

FOR FURTHER INFORMATION CONTACT:

Donald Law, Air Program (8P-AR), EPA Region 8, 1595 Wynkoop Street, Denver, Colorado 80202-1129. *Phone:* (303)312-7015. *E-mail:* law.donald@epa.gov.

SUPPLEMENTARY INFORMATION: The Act affords EPA a 45-day period to review and object to, as appropriate, a title V operating permit proposed by State permitting authorities. Section 505(b)(2) of the Act authorizes any person to petition the EPA Administrator, within 60 days after the expiration of this review period, to object to a title V operating permit if EPA has not done so. Petitions must be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the State, unless the petitioner demonstrates that it was impracticable to raise these issues during the comment period or the grounds for the issues arose after this period. EPA received a petition from WildEarth Guardians dated April 1, 2010, requesting that EPA object to the issuance of the title V operating permit to Public Service Company of Colorado for the operation of the Cherokee Power Station. The Petition alleges that the Permit does not comply with 40 CFR part 70 in that it fails to assure compliance with: (I) A compliance plan for opacity monitoring requirements; (II) applicable opacity requirements; (III) particulate matter (PM) limits applicable to the coal-fired boiler; (IV) CAA section 112(j) for air toxics; and (V) PSD requirements in regard to carbon dioxide (CO₂) emissions.

On September 29, 2011, the Administrator issued an Administrative Order denying the Petition. The Order explains the reasons behind EPA's conclusions.

Dated: October 19, 2011.

James B. Martin,

Regional Administrator, Region 8.

[FR Doc. 2011-27734 Filed 10-25-11; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OW-2008-0517; FRL-9483-4]

RIN 2040-AF06

Notice of Final 2010 Effluent Guidelines Program Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice presents the final 2010 Effluent Guidelines Program Plan ("final 2010 Plan"), which, as required under the Clean Water Act (CWA), identifies any new or existing industrial dischargers, both those discharging directly to surface waters and those discharging to publicly owned treatment works (POTWs), selected for effluent guidelines rulemaking and provides a schedule for such rulemakings. CWA section 304(m) requires EPA to biennially publish such a plan after public notice and comment. The Agency published the preliminary 2010 Plan on December 28, 2009 (74 FR 68599) and solicited comments from the public for 60 days.

After considering rulemakings already in development, the 2010 reviews, the preliminary Plan and public comments and input to determine what, if any, new rulemakings should be initiated, EPA has decided to develop effluent guidelines and standards for the discharge of wastewater from the Coalbed Methane Extraction (CBM) industry and will develop pretreatments requirements for discharges of mercury from the Dental industry, and for the discharges of wastewater from the Shale Gas Extraction (SGE) industry.

EPA is also issuing the detailed study report for the Coalbed Methane Extraction and the preliminary study report of the Ore Mining and Dressing industry.

This notice also solicits public comments on EPA's 2011 reviews pursuant to the authority of CWA sections 304(b), 304(g), 301(d) and 307(b).

DATES: Submit comments on or before November 25, 2011.

ADDRESSES: Submit your comments on the final 2010 Plan, identified by Docket ID No. EPA-HQ-OW-2008-0517, by one of the following methods:

(1) <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.

(2) *E-mail:* OW-Docket@epa.gov, Attention Docket ID No. EPA-HQ-OW-2008-0517.

(3) *Mail:* Water Docket, Environmental Protection Agency, *Mailcode:* 4203M,

1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. EPA-HQ-OW-2008-0517. Please include a total of 3 copies.

(4) *Hand Delivery:* Water Docket, EPA Docket Center, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC, Attention Docket ID No. EPA-HQ-OW-2008-0517. Such deliveries are only accepted during the Docket's normal hours of operation and special arrangements should be made.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OW-2008-0517. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute (see below for instructions on submitting CBI). Do not submit information that you consider to be CBI or otherwise protected through [regulations.gov](http://www.regulations.gov) or e-mail. The federal [regulations.gov](http://www.regulations.gov) Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through [regulations.gov](http://www.regulations.gov), your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment, and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Submitting Confidential Business Information

Do not submit confidential business information (CBI) to EPA through <http://www.regulations.gov> or e-mail. Any CBI you wish to submit should be sent via a trackable physical method, such as Federal Express or United Parcel Service, to Mr. M. Ahmar Siddiqui, Document Control Officer, Engineering and Analysis Division (4303T), Room 6231S EPA West, U.S. EPA, 1200 Pennsylvania Ave, NW., Washington, DC 20460. A CBI package

should be double-wrapped, so that the CBI is in one package, which is itself inside another package. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on a disk or CD-ROM that you mail to EPA, mark the outside of the disk or CD-ROM as CBI and then identify electronically within the disk or CD-ROM the specific information that is claimed as CBI. In addition to one complete copy of the material that includes information claimed as CBI, a copy of the material that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

Docket: All documents in the docket are listed in the index at <http://www.regulations.gov>. Although listed in the index, some information is not publicly available, *i.e.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at <http://www.regulations.gov> or in hard copy at the Water Docket in the EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426.

Key documents providing additional information about EPA's annual reviews and the final 2010 Effluent Guidelines Program Plan include the following:

- Technical Support Document for the 2010 Effluent Guidelines Program Plan, EPA-820-R-10-021, DCN 07320;
- *Coalbed Methane Point Source Category:* Detailed Study Report, EPA-820-R-10-022, DCN 09999;
- *Draft Guidance Document:* Best Management Practices for Unused Pharmaceuticals at Health Care Facilities, August 26, 2010, EPA-821-R-10-006.
- Ore Mining and Dressing Category Preliminary Study, EPA-820-R-10-025, DCN 07369.

Data and Information for the 2011 Annual Review

Submit any data and information you have for the 2011 annual reviews, identified by Docket ID No. EPA-HQ-

OW-2010-0824, by one of the methods described above.

FOR FURTHER INFORMATION CONTACT: Mr. William F. Swietlik at (202) 566-1129 or swietlik.william@epa.gov.

SUPPLEMENTARY INFORMATION:

How is this document organized?

The outline of this notice follows.

- I. General Information
- II. Legal Authority
- III. What is the purpose of this **Federal Register** notice?
- IV. Background
- V. EPA's 2010 Annual Review of Existing Effluent Guidelines and Pretreatment Standards Under CWA Sections 301(d), 304(b), 304(g), 304(m), and 307(b)
- VI. EPA's 2010 Evaluation of Categories of Indirect Dischargers Without Categorical Pretreatment Standards To Identify Potential New Categories for Pretreatment Standards
- VII. The Final 2010 Effluent Guidelines Program Plan
- VIII. EPA's 2011 Annual Review of Existing Effluent Guidelines and Pretreatment Standards Under CWA Sections 301(d), 304(b), 304(g), and 307(b)
- IX. Request for Comment and Information

I. General Information

A. Does this action apply to me?

This notice provides a summary of the Agency's effluent guidelines review and planning processes and priorities at this time, and does not contain any regulatory requirements. This notice also provides a summary of the Agency's pretreatment standards review.

B. What should I consider as I prepare my comments for EPA for the 2011 annual review?

1. Tips for Preparing Your Comments

When submitting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.

- Explain your views as clearly as possible.
- Make sure to submit your comments by the comment period deadline identified.
- Follow the special procedures for submitting Confidential Business Information (CBI).

II. Legal Authority

This notice is published under the authority of the CWA, 33 U.S.C. 1251, *et seq.*, and in particular sections 301(d), 304(b), 304(g), 304(m), 306, 307(b), 308, 33 U.S.C. 1311(d), 1314(b), 1314(g), 1314(m), 1316, 1317(b), and 1318.

III. What is the purpose of this Federal Register notice?

This notice presents EPA's 2010 review of existing effluent guidelines and pretreatment standards under CWA sections 301, 304 and 307. It also presents EPA's evaluation of indirect dischargers without categorical pretreatment standards to identify potential new categories for pretreatment standards under CWA sections 304(g) and 307(b) and (c). This notice presents the final 2010 Effluent Guidelines Program Plan ("final 2010 Plan"), which, as required under CWA section 304(m), identifies any new or existing industrial categories selected for effluent guidelines rulemaking, as well as the establishment or revision of pretreatment standards, and provides a schedule for such rulemakings. CWA section 304(m) requires EPA to biennially publish such a plan after public notice and comment. The Agency published a preliminary 2010 Plan on December 28, 2009 (74 FRN 68599) and solicited comment through February 26, 2010. This notice also provides EPA's preliminary thoughts concerning its 2011 annual reviews under CWA sections 301(d), 304(b), 304(g), 306 and 307(b) and solicits comments, data and information to assist EPA in performing these reviews.

IV. Background

A. What are effluent guidelines and pretreatment standards?

The CWA directs EPA to promulgate effluent limitations guidelines and standards ("effluent guidelines") that reflect pollutant reductions that can be achieved by categories or subcategories of industrial point sources using technologies that represent the appropriate level of control. See CWA sections 301(b)(2), 304(b), 306, 307(b), and 307(c). For point sources that introduce pollutants directly into the waters of the United States (direct dischargers), the effluent limitations

guidelines and standards promulgated by EPA are implemented through National Pollutant Discharge Elimination System (NPDES) permits. See CWA sections 301(a), 301(b), and 402. For sources that discharge to publicly owned treatment works (POTWs), termed indirect dischargers, EPA promulgates pretreatment standards that apply to those sources and are enforced by the POTWs and State and Federal authorities. See CWA sections 307(b) and (c).

1. Best Practicable Control Technology Currently Available (BPT)—CWA Sections 301(b)(1)(A) & 304(b)(1)

EPA defines Best Practicable Control Technology Currently Available (BPT) effluent limitations for conventional, toxic, and non-conventional pollutants. Section 304(a)(4) designates the following as conventional pollutants: Biochemical oxygen demand (BOD₅), total suspended solids, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease as an additional conventional pollutant on July 30, 1979 (44 FR 44501). EPA has identified 65 pollutants and classes of pollutants as toxic pollutants, of which 126 specific substances have been designated priority toxic pollutants. See Appendix A to part 423. All other pollutants are considered to be non-conventional.

In specifying BPT, EPA looks at a number of factors. EPA first considers the total cost of applying the control technology in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities, the processes employed, and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the EPA Administrator deems appropriate. See CWA section 304(b)(1)(B). Traditionally, EPA establishes BPT effluent limitations based on the average of the best performances of facilities within the industry of various ages, sizes, processes, or other common characteristics. Where existing performance is uniformly inadequate, BPT may reflect higher levels of control than currently in place in an industrial category if the Agency determines that the technology can be practically applied.

2. Best Conventional Pollutant Control Technology (BCT)—CWA Sections 301(b)(2)(E) & 304(b)(4)

The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with Best Conventional Pollutant Control Technology (BCT) for discharges from existing industrial point sources. In addition to considering the other factors specified in section 304(b)(4)(B) to establish BCT limitations, EPA also considers a two part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in 1986. See 51 FR 24974 (July 9, 1986).

3. Best Available Technology Economically Achievable (BAT)—CWA Sections 301(b)(2)(A) & 304(b)(2)(B)

For toxic pollutants and non-conventional pollutants, EPA promulgates effluent guidelines based on the Best Available Technology Economically Achievable (BAT). See CWA section 301(b)(2)(A), (C), (D) and (F). The factors considered in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the process employed, potential process changes, non-water quality environmental impacts, including energy requirements, and other such factors as the EPA Administrator deems appropriate. See CWA section 304(b)(2)(B). The technology must also be economically achievable. See CWA section 301(b)(2)(A). The Agency retains considerable discretion in assigning the weight accorded to these factors. BAT limitations may be based on effluent reductions attainable through changes in a facility's processes and operations. Where existing performance is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved within a particular subcategory based on technology transferred from a different subcategory or category. BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice.

4. New Source Performance Standards (NSPS)—CWA Section 306

New Source Performance Standards (NSPS) reflect effluent reductions that are achievable based on the best available demonstrated control technology. New sources have the opportunity to install the best and most efficient production processes and wastewater treatment technologies. As a result, NSPS should represent the most

stringent controls attainable through the application of the best available demonstrated control technology for all pollutants (*i.e.*, conventional, non-conventional, and priority pollutants). In establishing NSPS, EPA is directed to take into consideration the cost of achieving the effluent reduction and any non-water quality environmental impacts and energy requirements.

5. Pretreatment Standards for Existing Sources (PSES)—CWA Section 307(b)

Pretreatment Standards for Existing Sources (PSES) are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTWs), including sludge disposal methods at POTWs. Pretreatment standards for existing sources are technology-based and are analogous to BAT effluent limitations guidelines. The General Pretreatment Regulations, which set forth the framework for the implementation of national pretreatment standards, are found at 40 CFR part 403.

6. Pretreatment Standards for New Sources (PSNS)—CWA Section 307(c)

Like PSES, Pretreatment Standards for New Sources (PSNS) are designed to prevent the discharges of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of POTWs. PSNS are to be issued at the same time as NSPS. New indirect dischargers have the opportunity to incorporate into their facilities the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating NSPS.

B. What are EPA's review and planning obligations under sections 301(d), 304(b), 304(g), 304(m), and 307(b)?

1. EPA's Review and Planning Obligations Under Sections 301(d), 304(b), and 304(m)—Direct Dischargers

Section 304(b) requires EPA to review its existing effluent guidelines for direct dischargers each year and to revise such regulations "if appropriate." Section 304(m) supplements section 304(b) by requiring EPA to publish a plan every two years announcing its schedule for performing this annual review and its schedule for rulemaking for any effluent guidelines selected for possible revision as a result of that annual review. Section 304(m) also requires the plan to identify categories of sources discharging toxic or non-conventional pollutants for which EPA has not published effluent

limitations guidelines under section 304(b)(2) or NSPS under section 306. See CWA section 304(m)(1)(B); S. Rep. No. 50, 99th Cong., 1st Sess. (1985); WQA87 Leg. Hist. 31 (indicating that section 304(m)(1)(B) applies to "non-trivial discharges."). Finally, under section 304(m), the plan must present a schedule for promulgating effluent guidelines for industrial categories for which it has not already established such guidelines, providing for final action on such rulemaking not later than three years after the industrial category is identified in a final Plan. See CWA section 304(m)(1)(C); *NRDC et al. v. EPA*, 542 F.3d 1235, 1251 (9th Cir. 2008). EPA is required to publish its preliminary Plan for public comment prior to taking final action on the plan. See CWA section 304(m)(2).

In addition, CWA section 301(d) requires EPA to review every five years the effluent limitations required by CWA section 301(b)(2) and to revise them if appropriate pursuant to the procedures specified in that section. Section 301(b)(2), in turn, requires point sources to achieve effluent limitations reflecting the application of the best practicable control technology (all pollutants), best available technology economically achievable (for toxic pollutants and non-conventional pollutants) and the best conventional pollutant control technology (for conventional pollutants), as determined by EPA under sections 304(b)(1), 304(b)(2) and 304(b)(4), respectively. For over three decades, EPA has implemented sections 301 and 304 through the promulgation of effluent limitations guidelines, resulting in regulations for 57 industrial categories. See *E.I. du Pont de Nemours & Co. v. Train*, 430 U.S. 113 (1977). Consequently, as part of its annual review of effluent limitations guidelines under section 304(b), EPA is also reviewing the effluent limitations they contain, thereby fulfilling its obligations under sections 301(d) and 304(b) simultaneously.

2. EPA's Review and Planning Obligations Under Sections 304(g) and 307(b)—Indirect Dischargers

Section 307(b) requires EPA to revise its pretreatment standards for indirect dischargers "from time to time, as control technology, processes, operating methods, or other alternatives change." See CWA section 307(b)(2). Section 304(g) requires EPA to annually review these pretreatment standards and revise them "if appropriate." Although section 307(b) only requires EPA to revise existing pretreatment standards "from time to time," section 304(g) requires an

annual review. Therefore, EPA meets its 304(g) and 307(b) requirements by reviewing all industrial categories subject to existing categorical pretreatment standards on an annual basis to identify potential candidates for revision.

Section 307(b)(1) also requires EPA to promulgate pretreatment standards for pollutants not susceptible to treatment by POTWs or that would interfere with the operation of POTWs, although it does not provide a timing requirement for the identification of new industries for pretreatment standards. EPA, in its discretion, periodically evaluates indirect dischargers not subject to categorical pretreatment standards to identify potential candidates for new pretreatment standards. The CWA does not require EPA to publish its review of pretreatment standards or identification of potential new categories, although EPA is exercising its discretion to do so in this notice.

EPA intends to repeat this publication schedule for future pretreatment standards reviews (*e.g.*, EPA will publish the 2011 annual pretreatment standards review in the notice containing the Agency's 2011 annual review of existing effluent guidelines and the preliminary 2012 plan). EPA intends that these contemporaneous reviews will provide meaningful insight into EPA's effluent guidelines and pretreatment standards program decision-making. Additionally, by providing a single notice for these and future reviews, EPA hopes to provide a consolidated source of information for the Agency's current and future effluent guidelines and pretreatment standards program reviews.

V. EPA's 2010 Annual Review of Existing Effluent Guidelines and Pretreatment Standards Under CWA Sections 301(d), 304(b), 304(g), 304(m), and 307(b)

A. What process did EPA use to review existing effluent guidelines and pretreatment standards under CWA Section 301(d), 304(b), 304(g), 304(m), and 307(b)?

1. Overview

In its 2010 annual review, EPA reviewed all industrial categories subject to existing effluent limitations guidelines and pretreatment standards, representing a total of 57 point source categories and over 450 subcategories. Generally, EPA uses four factors in a phased approach to review existing effluent limitations guidelines and pretreatment standards:

(1) Pollutants discharged in an industrial category's effluent,

(2) Potential pollution prevention and control technology options,

(3) Category growth and economic considerations of technology options, and

(4) Implementation and efficiency considerations of revising existing effluent guidelines or publishing new effluent guidelines (see December 21, 2006; 71 FR 76666).

In the 2010 annual review EPA incorporated, for the first time, discharge data from approximately 15,000 "minor" industrial dischargers. Point sources are generally classified as major or minor, depending on size and nature of the discharges. A major industrial discharger is a facility scoring over 80 points based on rating criteria. Minor industrial discharges are facilities that score below the criteria score of 80 on the rating scale.

2. What analyses did EPA perform for its 2009 and 2010 annual reviews of existing effluent guidelines and pretreatment standards?

a. Screening-Level Review

The first component of EPA's 2010 annual review consisted of a screening-level review of all industrial categories subject to existing effluent guidelines or pretreatment standards. EPA focused its efforts on collecting and analyzing data to identify industrial categories whose pollutant discharges potentially are the most significant. EPA used Toxic Release Inventory (TRI), Permit Compliance System (PCS) and Integrated Compliance Information System—National Pollutant Discharge Elimination System (ICIS—NPDES) data to estimate the mass of pollutant discharges from industrial facilities. Because pollutant toxicities are different, EPA converted the toxic and non-conventional pollutant discharges that are reported in a mass unit (pounds) into a measure of relative toxicity—a toxic-weighted pound equivalent or TWPE.

EPA calculated the TWPE for each pollutant discharged by multiplying the pollutant specific toxic weighting factor (TWF) and the mass of the pollutant discharge. Where data are available, these TWFs reflect both aquatic life and human health effects. EPA ranked point source categories according to their discharges of toxic and non-conventional pollutants (reported in units of TWPE) to assess the significance of these toxic and non-conventional pollutant discharges to human health or the environment. EPA conducted this process for the 2010 annual reviews using the most recent TRI, PCS and ICIS—NPDES data (2008).

Based on this methodology, EPA prioritized for potential revision industrial categories that offered the greatest potential for reducing hazard to human health and the environment. EPA assigned those categories with the lowest estimates of toxic-weighted pollutant discharges a lower priority for revision (*i.e.*, industrial categories marked "(3)" in the "Findings" column in Table V-1 in section V.B.4 of this notice).

In order to further focus its inquiry during the 2010 annual review, EPA assigned a lower priority for potential revision to categories for which effluent guidelines had been recently promulgated or revised, or for which effluent guidelines rulemaking was currently underway. EPA removed an industrial point source category from further consideration during the current review cycle if EPA established, revised, or reviewed in a rulemaking context the category's effluent guidelines after August 2003 (*i.e.*, the last seven years). EPA chose seven years because this is the time it customarily takes for the effects of effluent guidelines or pretreatment standards to be fully reflected in pollutant loading data and TRI reports (in large part because effluent limitations guidelines are often incorporated into NPDES permits only upon re-issuance of those permits, which could be up to five years after the effluent guidelines or pretreatment standards are promulgated). EPA also removed an industrial point source category from further consideration during the current review cycle if EPA recently completed a preliminary study or a detailed study and determined that no further action is necessary at this time. These categories are marked "(1)" in the "Findings" column in Table V-1 in section V.B.4 of this notice.

Because there are 57 point source categories (including over 450 subcategories) with existing effluent guidelines and pretreatment standards that must be reviewed annually, EPA believes it is important to prioritize its review so as to focus on industries where changes to the existing effluent guidelines or pretreatment standards are most likely to result in further pollutant discharge reduction. In general, industries for which effluent guidelines or pretreatment standards have recently been promulgated are less likely to warrant such changes.

As part of the 2010 annual review, EPA also considered the number of facilities responsible for the majority of the estimated toxic-weighted pollutant discharges associated with an industrial activity. EPA applied a lower priority for potential revision to industrial

categories where only a few facilities in a category accounted for the vast majority of toxic-weighted pollutant discharges (*i.e.*, categories marked "(2)" in the "Findings" column in Table V-1 in section V.B.4 of this notice). EPA believes that revision of individual permits for such facilities may be more effective than a revised national rulemaking. Individual permit requirements can be better tailored to these few facilities and may take considerably less time and resources to establish than revising the national effluent guidelines. The Docket accompanying this notice lists facilities that account for the vast majority of the estimated toxic-weighted pollutant discharges for a particular category (see DCN 07320). For these facilities, EPA will consider identifying pollutant control and pollution prevention technologies that will assist permit writers in developing facility-specific technology-based effluent limitations on a best professional judgment (BPJ) basis. In future annual reviews, EPA also intends to re-evaluate each category based on the information available at the time in order to evaluate the effectiveness of the BPJ permit-based support.

EPA also applied a lower priority to categories without sufficient data to determine whether revision would be appropriate. For any industrial categories marked "(5)" in the "Findings" column in Table V-1 in section V.B.4 of this notice, EPA lacks sufficient information at this time on the magnitude of the toxic-weighted pollutant discharges. EPA will continue reviewing available data on the discharges and will seek additional information on the discharges from these categories in the next annual review in order to determine whether a detailed study is warranted. See the appropriate section in the TSD for the final 2010 Plan (see DCN 07320) for EPA's data needs for these industrial categories. This assessment provides an additional level of quality assurance on the reported pollutant discharges and number of facilities that represent the majority of toxic-weighted pollutant discharges.

For industrial categories marked "(4)" in the "Findings" column in Table V-1 in section V.B.4 of this notice, EPA had sufficient information on the toxic-weighted pollutant discharges to continue or complete a detailed study of these industrial categories.

For industrial categories marked "(6)" in the "Findings" column in Table V-1 in section V.B.4 of this notice, EPA is identifying this industry for a revised effluent guidelines rulemaking.

Next, EPA considered the availability of technologies to reduce pollutant discharges. EPA does not have, for all of the 57 existing industrial categories, information about the availability of treatment or process technologies to reduce pollutant wastewater discharges beyond the performance of the technologies upon which existing effluent guidelines and standards were developed. At present 46 states and one U.S. territory are authorized to administer the CWA NPDES program. Under the CWA, permitting authorities must include water-quality based effluent limits where the technology-based effluent limits are not sufficient to meet applicable water quality standards. Therefore, dischargers may have already installed technologies that reduce pollutant discharges to a level below the original technology-based requirements in order to meet such water-quality based effluent limitations.

Analyzing the significance of the remaining pollutant discharges is most useful for assessing the potential effectiveness of additional technologies because such an analysis focuses on the amount and significance of pollutant discharges that would actually be removed through new, technology-based nationally-applicable regulations for these categories. Where potential pollutant discharge reductions are not significant, there are likely few effective technology options for a technology-based rule. Once EPA determined which industries have the potential for significant additional pollutant removals, EPA further examined the availability of technologies for certain industries. For example, EPA identified technologies to minimize pollutant discharges from coalbed methane extraction facilities (see Coalbed Methane Point Source Category: Detailed Study Report, EPA-820-R-10-022, DCN 09999).

EPA also considered whether there was a way to develop a suitable tool for comprehensively evaluating the availability and affordability of treatment or process technologies, but determined that there is not, because the universe of facilities is too broad and complex. EPA could not find a reasonable way to prioritize the industrial categories based on readily available engineering and economic data. In the past, EPA has gathered information regarding technologies and economic achievability for one industrial category at a time through detailed questionnaires distributed to hundreds of facilities within a category or subcategory for which EPA has commenced rulemaking. Such information-gathering is subject to the

requirements of the Paperwork Reduction Act (PRA), 33 U.S.C. 3501, *et seq.* The information acquired in this way is valuable to EPA in its rulemaking efforts, but the process of gathering, validating and analyzing the data can consume considerable time and resources. EPA does not think it is appropriate or feasible to conduct this level of analysis for all point source categories in conducting an annual review. Rather, EPA uses its analyses of existing pollutant discharges to identify the categories with the largest toxic-weighted discharges. From this smaller list of categories, EPA evaluates the possibility of effective technologies and selects certain industries for further examination (*e.g.*, Preliminary Category Reviews, Detailed Studies).

Additionally, when EPA becomes aware of the growth of a new industrial activity within an existing category or where new concerns are identified for previously unevaluated pollutants discharged by facilities within an industrial category, EPA applies more scrutiny to the category in a subsequent review.

EPA also considers whether there are industrial activities not currently subject to effluent guidelines or pretreatment standards that should be included with these existing categories, either as part of existing subcategories or as potential new subcategories. These industries are sometimes suggested by commenters during the public comment period or may come to EPA's attention in other ways.

EPA also continued to use the quality assurance project plan (QAPP) developed for the 2009 annual review to document the type and quality of data needed to make the decisions in this 2010 annual review and to describe the methods for collecting and assessing those data (see EPA-820-R-10-021). EPA performed quality assurance checks on the data used to develop estimates of toxic-weighted pollutant discharges (*i.e.*, verifying 2008 discharge data reported to TRI, PCS and ICIS-NPDES) to determine whether any of the pollutant discharge estimates relied on incorrect or suspect data. For example, EPA contacted facilities and permit writers to confirm and, as necessary, correct TRI, PCS or ICIS-NPDES data for facilities that EPA had identified in its screening-level review as the significant dischargers.

In summary, through its screening level review, EPA focused on those point source categories that appeared to have the greatest potential for reducing hazard to human health and the environment. This enabled EPA to concentrate its resources on conducting

more in-depth reviews of the higher priority categories.

b. Further Review of Prioritized Categories

EPA conducts a preliminary category review when it lacks sufficient data to determine whether a regulatory revision would be appropriate and for which EPA is performing a further assessment of pollutant discharges before starting a detailed study. These assessments provide an additional level of quality assurance on the reported pollutant discharges and number of facilities that represent the majority of toxic-weighted pollutant discharges.

In conducting a preliminary category review, EPA uses the same types of data sources used for the detailed studies or effluent guidelines development but in less depth. As part of the preliminary category reviews, EPA may evaluate technologies that could achieve better control of pollutant discharges. EPA might also conduct surveys or collect data from additional sources. The full description of EPA's methodology for the 2010 annual review is presented in the Technical Support Document (TSD) for the final 2010 Plan (see DCN 07320).

c. Detailed Studies

EPA conducts detailed studies to obtain information on hazard, availability and cost of technology options, and other factors in order to determine if it would be appropriate to identify the category for possible effluent guidelines revision. The full description of EPA's methodology for the 2010 review is presented in the Technical Support Document (TSD) for the final 2010 Plan (see DCN 07320).

3. How did EPA's 2009 annual review influence its 2010 annual review of point source categories with existing effluent guidelines and pretreatment standards?

In view of the annual nature of its reviews of existing effluent guidelines and pretreatment standards, EPA believes that each annual review can and should influence succeeding annual reviews, *e.g.*, by indicating data gaps, identifying new pollutants or pollution reduction technologies, or otherwise highlighting industrial categories for additional scrutiny in subsequent years.

During its 2009 annual review, which concluded the end of December 2009, EPA continued detailed studies of the existing effluent guidelines and pretreatment standards for two industrial categories: Oil and Gas Extraction category (Part 435) for the purpose of assessing whether to revise the limits to include coalbed methane

extraction as a new subcategory, and Hospitals (Part 460) which is part of the Health Care Industry detailed study on the management of unused pharmaceuticals. In addition, EPA conducted a preliminary study of the Ore Mining and Dressing category (part 440) during 2009. EPA used the findings, data and comments on the 2009 annual review to inform its 2010 annual review and the final 2010 Plan. The 2010 review also built on the previous reviews by incorporating some refinements to assigning discharges to categories and updating toxic weighting factors.

EPA published the findings from its 2009 annual review with its preliminary 2010 Plan (December 28, 2009, 74 FRN 68599), making the pollutant discharge and industry profile data available for public comment. Docket No. EPA-HQ-OW-2008-0517.

4. How did EPA consider public comments in its 2010 annual review?

EPA's annual review process considers information provided by stakeholders regarding the need for new or revised effluent limitations guidelines and pretreatment standards. Public comments received on EPA's prior reviews and Plans helped the Agency prioritize its analysis of existing effluent guidelines and pretreatment standards during the 2010 review. Public comments, depending on the number, the issues, the data and information submitted and the recommendations made therein, can influence the annual review.

In accordance with CWA section 304(m)(2), EPA published the preliminary 2010 Plan for public comment prior to this publication of the final 2010 Plan. See December 28, 2009 (74 FRN 68599). The Docket accompanying this notice includes a complete set of all of the comments submitted, as well as the Agency's responses (see DCN 07368). The Agency received 51 sets of comments on the preliminary 2010 Plans.

Commenting organizations representing industry included the American Petroleum Institute, American Health Care Association, Independent Petroleum Association of America, National Association of Clean Water Agencies, American Dental Association, American Water Works Association, and the National Mining Association.

Six environmental groups commented, including the Northern Plains Resources Council, Earth Justice, Environmental Integrity Project and the Powder River Basin Council.

Eight states, or state representing organizations, also commented,

including the states of WY, MT, NY, WI, OR, FL, ID and the Quicksilver Caucus.

EPA received comments from 22 private individuals, all addressing the issue of the environmental impacts of hydraulic fracturing used in shale gas extraction. Most of these individuals were from NY and PA, and their comments reflected concerns about shale gas extraction in the Marcellus Shale formation.

EPA also received comments from one Tribal Nation (the Northern Cheyenne) and four local organizations (Tompkins County Senior Citizen Council, St. Paul MetroCouncil, Bay Area Pollution Prevention Group and Albany Medical College).

Comments were distributed among the following subject areas, in order of abundance:

- Coalbed Methane and Shale Gas Extraction (40 comments)
- Health Care Industry—(unused pharmaceuticals) (35 comments)
- Ore Mining and Dressing (2 comments)
- Steam Electric Power Generation (2 comments)
- Effluent limitation guidelines (ELGs) and Plan process in general (2 comments)
- Dental Amalgam (1 comment)
- Other (2 comments)

For coalbed methane, there were seven comments that also expressed concern with the practice of shale gas extraction; 13 comments requesting that EPA examine shale gas extraction in the coalbed methane detailed study; seven requests to not add shale gas extraction to the coalbed methane study; six commenters who suggested that EPA should do a coalbed methane ELG rule; and seven commenters who suggested that EPA not do a rule.

For the Health Care industry, in particular the management of unused pharmaceuticals, EPA received three comments supporting the detailed study; three comments suggesting EPA work more closely with the U.S. Drug Enforcement Agency (DEA); four comments that explained EPA should work with the Food and Drug Administration (FDA) and health insurance companies to encourage unused pharmaceutical returns and a coordinated message about such; twelve comments indicating EPA should develop BMPs, disposal guidance, flyers and other disposal information; three comments supporting take-back programs; six comments that suggested current disposal practices are barriers to return/reuse; and four comments indicating that pharmaceutical flushing should be controlled by sewage treatment authorities.

For the Ore Mining and Dressing category there were two comments that stated EPA should not develop a new ELG.

For the Steam Electric Power Generation industry, which is currently undergoing a revised ELG as a result of last year's Plan, there was one comment that supported EPA's selection of the steam electric industry for rulemaking, and one commenter that believed EPA made several errors in its detailed study final report.

One commenter asked EPA to select the dental industry for an ELG rulemaking, arguing that the industry is responsible for half of the national mercury loadings to Publicly Owned Treatment Works (POTWs), and the ongoing activities under the Dental Amalgam control MOU are insufficient.

A more detailed summary table of the comments can be found in the 2010 TSD, EPA-820-R-10-021 (DCN 07320). EPA carefully considered all public comments and information submitted in developing the final 2010 Plan. A comment response document is also available at (DCN 07368).

B. What were EPA's findings from its 2010 annual review for categories subject to existing effluent guidelines and pretreatment standards?

1. Screening-Level Review

In its 2010 screening level review, EPA considered hazard, and the other factors described in section V.A.2. above, in prioritizing effluent guidelines for potential revision. See Table V-1 in section V.B.4 of this notice for a summary of EPA's findings with respect to each existing category; see also the TSD for the final 2010 Plan, EPA-820-R-10-021, DCN 07320). Of the categories subject only to the screening level review in 2010, EPA is not identifying any for effluent guidelines rulemaking at this time, based on the factors described in section V.A above and in light of the effluent guidelines rulemakings in progress.

EPA carefully examined the industrial categories currently regulated by existing effluent guidelines that cumulatively comprise 95% of the reported hazard (reported in units of toxic-weighted pound equivalent or TWPE). The TSD for the preliminary 2010 Plan presents a summary of EPA's review of these 21 industrial categories (see DCN 07320).

EPA identified one category where additional data are required to evaluate toxic-weighted pollutant discharges. EPA will initiate a preliminary category review for the cellulosic products

segment of the Plastics Molding and Forming (part 463) industrial category.

Although EPA identified only one industrial category for preliminary category review in the 2010 annual review, EPA also identified that estimated toxic-weighted pollutant discharges of lead from the Pulp, Paper, and Paperboard (part 430) industrial category need further investigation. EPA intends to continue reviewing the Pulp, Paper and Paperboard industry during the 2011 annual review.

EPA identified the need for additional data review as part of the 2011 annual review for three industrial categories. See the appropriate section in the TSD for the final 2010 Plan, EPA-820-R-10-021, (see DCN 07320) for a detailed discussion of EPA's findings for these industrial categories: Mineral Mining and Processing (part 436); Landfills (Part 445); and Waste Combustors (part 444). See Section IX of this notice for the requested public comments. Based on new data submitted with public comment and screening-level data collected as part of the 2011 annual review, EPA intends to re-evaluate the category toxic-weighted pollutant discharges.

2. Results of Detailed Studies

Oil and Gas Extraction (part 435)

As a result of prior 304(m) planning, EPA initiated a detailed study of the coalbed methane industry and its wastewater discharges. Coalbed methane extraction is considered a subcategory of the Oil and Gas Extraction Point Source Category, although it is not currently subject to the effluent guidelines promulgated for this category. Since 2006, the coalbed methane industry has expanded. In addition, EPA received comments in 2005, 2008, and again during the 2010 review from citizens and environmental advocacy groups requesting development of a regulation for coalbed methane extraction as well as for shale gas extraction, another subcategory of the Oil and Gas Extraction Point Source Category. Unlike coalbed methane extraction, however, shale gas extraction is now subject to effluent guidelines for the Oil and Gas Extraction Point Source Category, although there are currently no applicable categorical pretreatment standards for shale gas extraction.

Coalbed methane-produced water discharges can impact receiving surface waters and soils. Saline discharges from coalbed methane operations can adversely affect aquatic life. The large volume of water discharged can also cause stream bank erosion and salt deposition, creating hardpan soil. Long-

term impacts include sodium buildup, reduction of plant diversity, mobilization of salts and other elements, and alteration of surface and subsurface hydrology.

Overview of Operations:

Methane gas is naturally created during the geologic process of converting plant material to coal (coalification). To extract the methane, coalbed methane operators drill wells into coal seams and pump out ground water. Removing the ground water from the formation is necessary to produce coalbed methane, as the water removal reduces the pressure and allows the methane to release from the coal to produce flowing natural gas. In 2008, 252 coalbed methane operators managed approximately 55,500 coalbed methane wells in the U.S. in 13 distinct regions, called basins.

Produced Water

The ground water that has been pumped out of the well, called "produced water," like most ground water found deep below the surface of the earth, has high salinity and can include pollutants such as chloride, sodium, sulfate, bicarbonate, fluoride, iron, barium, magnesium, ammonia, and arsenic. To quantify the amount of pollutants in coalbed methane produced waters, EPA relied on measuring total dissolved solids (TDS) and electrical conductivity (EC), which are bulk parameters for quantifying the total amount of dissolved solids in a wastewater.

A single coalbed methane well can discharge thousands of gallons of produced water per day, and may discharge produced water for anywhere from 5 to 15 years. Coalbed methane wells have a distinctive production history characterized by an early stage when large amounts of water are produced to reduce reservoir pressure which in turn encourages release of gas; a stable stage when quantities of produced gas increase as the quantities of produced water decrease; and a late stage when the amount of gas produced declines and water production remains low.

The quantity and quality of produced water varies from basin to basin, within a particular basin, from coal seam to coal seam, and over the lifetime of a coalbed methane well. For example, coalbed methane produced water volumes range from 1,000 gallons per day per well in the San Juan Basin to 17,000 gallons per day per well in the Powder River Basin.

Management of Produced Water

Coalbed methane operators need to dispose of thousands of gallons of produced water per day for each coalbed methane well. Operators can employ a range of options for treatment and management of this wastewater.

Preliminary estimates based on survey data predict that approximately 47 billion gallons of produced water are pumped annually from coal seams across the country. Approximately 45% of those produced waters are directly discharged to waters of the U.S., for a total national discharge of 22 billion gallons per year.

Surface water discharge is most prevalent in three U.S. coalbed methane basins: The Black Warrior Basin in Alabama and Mississippi (11% of total coalbed methane surface discharges), the Powder River Basin in Wyoming and Montana (72% of total coalbed methane surface discharges), and the Raton Basin in Colorado and New Mexico (11% of total coalbed methane surface discharges). Many of these discharges are largely untreated. Surface discharge occurs rarely, if at all, in the other major commercial basins.

In the other commercial basins in the U.S, coalbed methane operators are, for the most part, able to prevent discharging their produced water by discharging the water to land (where there may be other impacts to the soil or vegetation), re-injecting the produced water back into the ground, or using the water in one of many beneficial use options (e.g., stock watering, irrigation).

Treatment of Produced Waters

Available technology options for adequately removing pollutants from produced water include ion exchange and reverse osmosis.

Summary of Outreach

In 2007 EPA conducted several site visits to coalbed methane basins throughout the country and gathered information on potential treatment technologies for coalbed methane-produced water discharges. EPA also conducted widespread outreach with stakeholders, both in the industry and from the communities adjacent to coalbed methane basins. EPA conducted more than 30 site visits to locations in six coalbed methane basins and met with over 300 different stakeholders. EPA also conducted 13 meetings and teleconferences with over 150 stakeholders. In addition to the extensive information collection through site visits and outreach, EPA acknowledged that an informed decision about rulemaking would

require even more detailed information. EPA developed an industry questionnaire, solicited public comment through the Paperwork Reduction Act, to conduct a mandatory survey directed at operators of coalbed methane projects which consist of a single well or a group of wells operated by the same company. The questionnaire collected technical and economic data in a two-part survey, a screener and a detailed survey, on the operations and operators of coalbed methane projects. Questionnaire responses arrived in early 2010 and the data was used by EPA to create national estimates of pollutant discharges across the country from the coalbed methane industry and to develop an economic profile of the industry.

In response to the 2010 preliminary Plan, EPA received 32 comments on coalbed methane extraction. Comments from industry sources did not support rulemaking for coalbed methane, suggesting an effluent guideline was not appropriate due to the variability of produced water quality, quantity and available management techniques across the country. Additionally, industry stated that the current regulatory framework of site-specific BPJ permits was adequately addressing pollutant discharges from produced water discharges.

The final detailed study report for coalbed methane is being issued concurrent with the publication of this FR Notice and is a part of the final 2010 Plan. The study report is available at DCN 09999.

Coalbed methane production represents about 8% of natural gas production in this country, and coalbed methane extraction is expected to continue for decades. Of the 22 billion gallons of water discharged to surface water each year some has high total dissolved solids. The detailed study also found that there are readily available technologies to treat this produced water. As a result of the information gathered in the detailed study, EPA has decided to initiate rulemaking for coalbed methane extraction, a currently unregulated subcategory of the Oil and Gas Extraction Point Source Category.

3. Results of Preliminary Category Reviews

Ore Mining and Dressing (Part 440)

As discussed in the 2008 Final Effluent Guidelines Program Plan, EPA conducted a preliminary study of facilities covered under 40 CFR part 440 "Ore Mining and Dressing Point Source Category" to examine why toxic

weighted pollutant discharges by the ore mining industry ranked relatively high compared to other industries in the 2002 through 2008 annual reviews. The purpose of the study was to identify, collect, and review readily available existing data and information on toxic pollutants in wastewater discharges to determine whether additional analysis or revision of 40 CFR part 440 might be warranted to better control toxic discharges.

The preliminary study focused on active ore mines covered under 40 CFR part 440 subpart J: "Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores." These types of mines comprise approximately 76 percent (263) of the approximately 345 ore mines in the United States. Inactive ore mines were not included as they are not covered by the effluent guidelines.

Approximately 294 ore mines currently have National Pollutant Discharge Elimination System (NPDES) wastewater discharge permits. There is a difference between the total number of ore mines and the number with NPDES permits because not all ore mines have wastewater discharges. The approximately 1,870 placer mines, covered under 40 CFR part 440 subpart M, were not examined in this study because they employ mining practices and wastewater streams that are fundamentally different from mines covered under the other subparts of 40 CFR part 440.

The preliminary study examined information pertaining to the two types of wastewater discharged by ore mines: Process wastewater (including mine drainage) and stormwater. Process wastewater is covered under 40 CFR part 440. Stormwater is not covered under 40 CFR part 440 unless it is commingled with process wastewater prior to discharge to a surface waterbody.

The study was limited by incomplete national-level process wastewater discharge data, and the lack of any nationally representative stormwater data for the ore mines of interest. EPA did review available ore mine-specific process wastewater discharge information, available Total Maximum Daily Load (TMDL) reports, information for ore mine site stormwater discharges, and an industrial wastewater treatment technology, known as high density sludge recycling, which was identified during the course of the study.

Based on EPA's review of toxic pollutant data, EPA found that in 2007, the most recent year for which quality-checked data are available, approximately only two percent of ore mining facilities were responsible for

approximately 90 percent of toxic weighted discharges by the ore mining industry for toxic pollutants.

Given that only a small percentage of active ore mines account for the majority of toxic weighted discharges, this can best be addressed through permitting, compliance, and enforcement activities for the specific ore mining sources, rather than by revision of 40 CFR part 440.

While the available toxic pollutant data does not suggest that EPA revisit the ELG for ore mining and dressing (40 CFR part 440) at this time, the Agency currently remains concerned about many other types of mining-related water quality impairments. EPA has a number of activities that address discharges of pollutants from mines including interim guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations Under the Clean Water Act, National Environmental Policy Act, and the Environmental Justice Executive Order, plans to revise the water quality criteria for selenium, increased attention on compliance with, and enforcement of, individual permit limits; improved permitting guidance and more stringent discharge monitoring requirements in permits.

The Ore Mining Preliminary Study report is being issued concurrent with the publication of this FR Notice and represents a portion of the final 2010 Plan. The Ore Mining Preliminary Study report (EPA-820-R-10-025) is available at DCN 07369.

4. Other Reviews

Shale Gas Extraction

Overview

As discussed in the March 2011 "Blueprint for a Secure Energy Future," ("Blueprint") the production of domestic natural gas enhances energy security and fuels our nation's economy (DCN 07496). In 2010, U.S. natural gas production reached its highest level in more than 30 years with much of the increase resulting from the production of natural gas from shale formations. This is due to recent advances in horizontal drilling and hydraulic fracturing that have made extraction of natural gas from shale formations more technically and economically feasible. The increase is expected to continue. The U.S. Department of Energy projects shale gas production as a percentage of the U.S. natural gas production will increase over the next 25 years from the current level of 14% to an estimated 45%.

As indicated in the "Blueprint," the Administration is taking several steps to

ensure natural gas is developed in a safe and environmentally responsible manner. The "Blueprint" lists several initiatives to support these goals, including disclosure of fracturing chemicals, public meetings, EPA- and DOE-led research, the establishment of an expert panel to examine fracturing issues, and technical assistance to State regulators. In particular, the "Blueprint" directed the Secretary of Energy, in consultation with the EPA Administrator and Secretary of the Interior, to task the Secretary of Energy Advisory Board (SEAB) with establishing a subcommittee to examine issues related to shale gas production through hydraulic fracturing. The subcommittee is supported by DOE, EPA and DOI, and its membership extends beyond SEAB members to include leaders from industry, the environmental community, academia, and states. The subcommittee is working to identify both immediate steps that can be taken to improve the safety and environmental performance of fracturing and to provide consensus recommended advice to the agencies on practices for shale extraction to ensure the protection of public health and the environment. On August 11, 2011, the Subcommittee submitted a 90-day report with its preliminary recommendations (DCN 07504). The report recommends measures to increase public disclosure and transparency and address concerns about air and water pollution. The report also recommends a range of tools for implementing these measures, including regulation, continuous improvement in best practices by industry, and ongoing research and development.

Today's decision to initiate rulemaking is consistent with these initiatives in that it addresses potential environmental impacts associated with hydraulic fracturing. This is part of the Administration's commitment in the "Blueprint" to continue to review existing regulatory structures governing both onshore and offshore oil and gas development to identify potential efficiencies in those processes and any crucial gaps that pose safety and environmental risks.

EPA will carefully consider the SEAB's preliminary and final recommendations as EPA develops regulatory options. EPA's regulatory action will complement and benefit by the initiatives already announced in the President's "Blueprint."

Introduction

The production of natural gas from shale formations has increased over the

past few years and the upward trend is expected to continue. For example, data from the Pennsylvania Department of Environmental Protection shows that the number of shale gas wells drilled in Pennsylvania increased substantially in the past few years, with more wells drilled and permits issued between January and April of 2010, than during all of 2008 (DCN 07474). As the number of shale gas wells in the U.S. increases, so too does the volume of shale gas wastewater that requires disposal.

Wastewater associated with shale gas extraction can contain high levels of total dissolved solids (TDS), fracturing fluid additives, metals, and naturally occurring radioactive materials (NORM).

EPA requested comments in the 2010 Preliminary Effluent Guidelines Plan on whether to include shale gas extraction as part of the Coal Bed Methane Detailed Study. Many of the comments on this topic expressed general concern about drinking water contamination and water quality impacts from shale gas extraction.

Industry commenters asserted that a shale gas rulemaking was not needed since existing Oil and Gas Effluent Guidelines require zero discharge from shale gas extraction. Although the existing regulations for onshore oil and gas extraction prohibit direct discharges of wastewaters from shale gas extraction, the current regulations do not contain pretreatment standards for pollutants associated with these discharges. EPA also has data that document pollutants in wastewaters associated with shale gas extraction are not treated by the technologies typically used at publicly and privately owned treatment facilities (DCN 07477 and DCN 07472A1).

EPA ultimately decided not to expand the Coal Bed Methane Study to include shale gas extraction. However, as a result of public comments, EPA began reviewing available data to inform a decision on whether or not a rulemaking to establish pretreatment standards for shale gas extraction was appropriate.

Overview of Shale Gas Operations

The term "Shale Gas" is typically used to describe natural gas trapped in underground shale deposits. Well operators use the process of hydraulic fracturing to extract this gas. Hydraulic fracturing is a method of extracting natural gas from highly impermeable rock formations by injecting large amounts of fracturing fluids (typically 3 to 5 million gallons) at high pressures to create a network of fissures, typically 250 feet in length (with occasional fractures as long as 1,000 feet), in the rock formations and provide the natural

gas a pathway to travel to the well for extraction.

While the composition of the fracturing fluids varies from region to region, and is specific to the formation to be fractured, the classes of compounds in the fluids are largely the same. The major components of fracturing fluid are water and proppant (typically sand), used to keep the fractures open after the fracturing has been complete, and chemical additives. EPA has reviewed data presented by industry sources including Chesapeake Energy, Talisman Energy, the Gas Technology Institute (GTI) and Halliburton, regarding the different classes of compounds in fracturing fluids, such as biocides, friction reducers, surfactants, scale and corrosion inhibitors and acids. Additionally, EPA has reviewed a registry developed jointly by the Ground Water Protection Council and the Interstate Oil and Gas Commission of chemicals used in fracturing fluids voluntarily provided by oil and gas companies (<http://www.fracfocus.org>).

A portion of the injected fracturing fluid will remain in the fractures. The precise amount of fluid retention is uncertain and depends on the geologic formation. The fluids not retained in the formation will ultimately return to the surface as "flowback" or "produced water." These wastewaters may contain the chemicals originally found in the fracturing fluids as well as other naturally occurring constituents that may be released into the fluid as the rock formations are broken.

Produced Waters From Shale Gas Extraction

A shale gas well has two distinct phases of water production from the formation. The first phase typically occurs during the first 30 days following the fracturing process (DCN 07482A10 and DCN 07482A23), also known as the "flowback period." During this time a portion of the injected fracturing fluid will return to the surface.

There are varying reports on the actual volume of flowback; multiple studies and presentations report that volumes ranging from 10–75% of the injected fracturing fluids are returned during the flowback period. The amount of "flowback" is dependent, in part, on the geology of the shale basin (DCN 07477).

After this initial surge of flowback passes, produced water will continue to come to the surface for the life of the well. Chesapeake Energy provided data indicating that "long term" produced water volumes range from 200–1,000 gallons per million cubic feet of gas

produced depending on the basin in which the well is located. Currently, the Barnett shale formation has the highest long term flowback volumes and the Marcellus shale formation has the lowest. While there is no consensus on when the initial “flowback” period ends, some operators choose to view all water passing from the formation up through the wellbore as “produced water” regardless of the time period in which it occurs.

Pollutants in Shale Gas Wastewaters

Produced waters (shale gas wastewaters) generally contain elevated concentrations of fracturing fluid additives, salt content (often expressed as total dissolved solids—TDS), conventional pollutants, organics, metals, and NORM (naturally occurring radioactive material).

EPA has multiple sources of shale gas produced water characterization data including reports published by the Department of Energy (DCN 07476 and DCN 07474) and industry flowback analysis made available by Chesapeake Energy, Talisman Energy, Devon Energy, Superior Well Services, and GTI.

Total dissolved solids is the most reported pollutant. Data on TDS concentrations are widely available due to the potential negative impact of high concentrations of TDS on the ability to re-use the shale gas wastewater. Elevated TDS levels may also impact the effectiveness of the additives in the fracturing fluids (DCN 07482A03).

High concentrations of TDS are common in shale gas wastewater across the country, although the levels may vary from basin to basin. TDS concentrations of 100,000 ppm are typical and can be as high as 400,000 ppm (DCN 07476). For comparison, sea water contains approximately 35,000 ppm TDS. The main component ion of TDS in shale gas wastewater appears to be chloride, which accounts for approximately 60% of the TDS found in shale gas wastewater. Chloride has been measured in shale gas wastewater water at levels of 8,800—153,000 ppm. Other components may include barium (21—13,900 ppm), strontium (Non-Detect—3,700 ppm), calcium (314—23,500 ppm), magnesium (135—5,000 ppm) and sodium (2,800—65,000 ppm). Additionally, the concentrations of TDS in produced water from each well tend to increase over time (DCN 07482A13, DCN 07482A10, DCN 07482A23, and DCN 07482A15).

Organic and inorganic pollutants appear to be less frequently sampled in comparison to the well documented TDS concentrations. EPA has reviewed limited data on organic pollutants in

produced water and found a range of pollutant concentrations: phenol (Non-Detect—3,700 ppb), pyridine (Non-Detect—534 ppb), benzene (1—3,400 ppb), ethyl benzene (Non-Detect—1,400 ppb), toluene (Non-Detect—11,400 ppb), total xylenes (2—14,500 ppb), and glycol (10,000—120,000 ppb). Additionally, bromide linked to shale gas wastewater has been measured in POTW outfalls (1,020—1,100 ppm) (DCN 07481A04, DCN 07481A03, DCN 07479A06, and DCN 07481A02).

NORM is an acronym for naturally occurring radioactive material. The U.S. Department of Energy published a report in 2009 that includes a description of the process by which NORM in the rock formations would be brought to the surface by hydraulic fracturing (DCN 07476). Radium 226, which has a half life of over 1,000 years, has been found to be present in concentrations up to 16,030 pCi/l in the Marcellus Shale produced water as reported by the New York State Department of Environmental Conservation in 2009 (DCN 07473). This reported radionuclide concentration exceeds the drinking water Maximum Contaminant Level of 5 pCi/L for Radium 226.

While EPA has some data on the additives in fracturing fluid, EPA is not aware of any substantial sampling data on the presence or absence of these additives in shale gas wastewaters.

Shale Gas Wastewater Disposal and Treatment

Up to 1 million gallons of shale gas wastewater may be produced from a single well within the first 30 days following fracturing. Smaller volumes of shale gas wastewater will also be produced throughout the life of the well. Many well operators transport this wastewater to Underground Injection Control (UIC) program permitted brine injection wells where the wastewater is permanently emplaced underground, a common practice in the oil and gas industry. The ability to inject shale gas wastewater varies based on local geology and permitting requirements. For example, this practice is widely used in the Barnett (Texas) formation where the state has more than 12,000 brine disposal wells, and less so in the Marcellus formation (PA, WV, OH, NY, MD). For comparison purposes, the Marcellus formation states presently have less than 300 brine disposal wells. The state of Pennsylvania, where most Marcellus shale drilling occurs, has six brine disposal wells.

Some operators elect to re-use a portion of the wastewater to replace and/or supplement fresh water in

formulating fracturing fluid for a future well¹. Re-use of shale gas wastewater is, in part, dependent on the levels of pollutants in the wastewater and the proximity of other fracturing sites that might re-use the wastewater. This practice has increased over the last couple of years, especially in regions of the country where fresh water is not plentiful.

When injection and re-use are not viable options for shale gas wastewater disposal, operators may dispose of this wastewater by sending it to POTWs or to private centralized waste treatment facilities (CWTs). The vast majority of POTWs employ equalization, bulk solids removal, biological treatment, and disinfection. POTWs are likely effective in treating only some of the pollutants in shale gas wastewater, such as the conventional and organic pollutants. These treatment technologies are not designed to treat high levels of TDS, NORM, or high levels of metals²; it is believed that much of these pollutants pass through the POTW untreated. Many CWTs, of which 90% discharge to POTWs, are similarly not designed to treat for high TDS or NORM (DCN 07474).

High concentrations of TDS may also lead to inhibition or disruptions of POTW treatment efficiency. However, most POTWs that accept shale gas wastewaters blend small volumes with traditional POTW wastewaters (1% shale gas wastewater by volume) to reduce pollutant concentrations through dilution to prevent POTW inhibition (DCN 07474).

Local Limits for Shale Gas Extraction Wastewater Introductions to POTWs

Under the Clean Water Act statutory and regulatory framework, POTWs must establish requirements for any introduction of wastewater to the POTW or its collection system if it either would cause “pass through” or “interference” (e.g., cause the POTW to violate its permits limits, or interfere with the operation of the POTW or the beneficial use of its sewage sludge). POTWs are subject to the secondary treatment effluent limitations at 40 CFR part 133, which do not address the parameters of concern in shale gas extraction wastewater (e.g., TDS, chloride, radionuclides, etc). If a water quality

¹ In order to prepare shale gas wastewater for re-use, the produced water is filtered to remove suspended solids from wastewater and then combined with fresh water and additives to formulate fracturing fluid. Typically re-used shale gas wastewater makes up only a small percentage of water demand for fracturing operations.

² Metcalf & Eddy Inc. (2003) Wastewater Engineering: Treatment and Reuse McGraw-Hill, New York.

based effluent limit for these parameters is not included in the POTW permit, and if there is no evidence of interference, or sewage sludge contamination, the POTW may not have a basis to develop appropriate local limits. Independent of CWA requirements, POTWs can establish local limits under their sewer use ordinances for any parameters they determine could cause problems at the POTW. Currently, however, it is uncommon that POTWs have established local limits for the parameters of concern here, or that POTWs have water quality-based effluent limitations (WQBELs) for such parameters. Possible Impacts of Shale Gas Wastewater Discharges to Drinking Water Sources and Aquatic Life.

TDS has been shown to have negative impacts on aquatic life and drinking water. The level at which these impacts may occur is far less than the level of TDS typically found in shale gas wastewater. As described above, the average concentration of TDS in shale gas wastewaters is typically 100,000 ppm and can be as high as 400,000 ppm. Available data indicates the levels of TDS in shale gas wastewaters can often exceed recommended drinking water concentrations³ by a factor of 200. Because TDS concentrations in fresh non-brackish drinking water sources are typically well below the recommended drinking water levels, few drinking water treatment facilities have technologies to remove TDS.

Aquatic life toxicity of freshwater contaminated with high TDS is dependent on the specific ionic composition of the water. In shale gas wastewaters, the largest single contributor to TDS is chlorides. Macroinvertebrates, and more specifically aquatic insects, have an open circulatory system and are more sensitive to pollutants like chloride, which at elevated exposure concentrations, negatively affect their ability to maintain the right concentration of salts and water in the body, which involves excreting metabolic wastes that would be toxic to the organism if allowed to accumulate. Based on laboratory toxicity data from EPA's 1988 chloride criteria document and more recent studies, invertebrate sensitivity to chloride acute effect concentrations ranged from 953 ppm to 13,691 ppm and chronic effect concentrations ranged from 489 ppm to 556 ppm. Aquatic vertebrates such as

fish and frogs are less sensitive to chloride with acute effect concentrations ranging from 3,959 ppm to 14,500 ppm and chronic effect concentrations of 646 ppm to 955 ppm (DCN 07483). Available data on maximum chloride concentrations in shale gas wastewaters exceed the acute effect concentration by a factor of over 100⁴ (DCN 07482A15).

In addition to the laboratory data, EPA also has data from a 2009 Pennsylvania Department of Environmental Protection violation report documenting a fishkill attributed to a spill of diluted produced water in Hopewell Township, PA. A sample of the receiving water at the location of the fishkill was analyzed and TDS was measured as high as 7,000 ppm. The report documents the effects of the TDS on aquatic species such as fish and salamanders and frogs, including mortalities (DCN 07471).⁵

Moreover, bromide found in shale gas wastewater may react with disinfectants used at water treatment plants, creating potentially harmful disinfection byproducts such as trihalomethane. Bromide, linked to shale gas wastewater, has been recorded in POTW effluents in concentrations as high as 1,100 ppm (DCN 07472 and DCN 07481A02).

Conclusion:

Natural gas can increase our domestic energy options, thus, reducing dependence on non-U.S. sources, and it has the potential to improve air quality, increase stability in energy prices, and provide greater certainty about future energy reserves. Also, natural gas can serve as a bridge fuel from coal to even more efficient energy sources that can further reduce greenhouse-gas emissions. Natural gas holds great potential for our energy future and for our environment and EPA supports the commitment in the "Blueprint," to responsible development of this important domestic resource and to proactively addressing the concerns that have been raised regarding potential negative impacts associated with hydraulic fracturing of shale formations.

We have heard from the public and environmental organizations that they are concerned about the safety of natural gas production and the possible impacts

that shale gas development could have on American communities. Some states have allowed development; others have put a hold on any development, cautious about the environmental impacts of shale gas production. Some states have asked that national standards be promulgated, and have also requested resources to help deal with these possible impacts. We have also heard from industry that shale gas extraction is currently regulated under the existing Oil and Gas Effluent Limitation Guidelines and those regulations are sufficient. What we know is that shale gas extraction generates extremely large volumes of wastewater that contain considerable pollutant loads. Some of this is being responsibly reinjected into appropriate underground wells; other volumes of wastewater are likely not being treated effectively by existing treatment facilities. Resulting discharges have the potential to affect both drinking water supplies and aquatic life. These concerns and issues will not dissipate as shale gas production is expected to increase. As a result, EPA has decided to initiate rulemaking to decide the appropriate level of pretreatment standards for this industry. As noted above, EPA will carefully consider the SEAB's recommendations as EPA develops regulatory options.

As a first step in developing a regulation, EPA will conduct extensive data gathering, including site visits, stakeholder outreach, and development of a national survey of the industry. More specifically, EPA will visit natural gas extraction operations where hydraulic fracturing is occurring to obtain data directly from the well operators on well drilling and fracturing operations, produced water characteristics, and wastewater management. In addition to the site visits, EPA will reach out to stakeholders and other affected entities to identify and better understand concerns regarding environmental impacts associated with fracturing wastewater and potential industry implications of the regulation. Finally, EPA will begin the process of developing and seeking approval to distribute a nationally representative survey to collect information on the shale gas industry. This survey will assist EPA in obtaining national data on the operations, economics, and wastewater characteristics associated with hydraulic fracturing, as well as data pertaining to available treatment technologies for shale gas wastewater.

In 2010, Congress directed EPA to "carry out a study on the relationship between hydraulic fracturing and

³ Two published standards regarding TDS include EPA's secondary maximum contaminant level for TDS of 500 ppm and the U.S. Public Health Service recommendation that TDS in drinking water should not exceed 500 ppm.

⁴ As discussed, many of the POTWs that accept shale gas wastewaters blend small volumes with traditional POTW wastewaters and reduce pollutant concentrations through dilution, so high concentrations in shale gas wastewaters do not necessarily lead to concentrations that exceed aquatic life criteria at the point of discharge.

⁵ While not related to shale gas wastewater, negative impacts of high TDS, including fish kills, were documented during 2009 at Dunkard Creek located in Monongalia County, Pennsylvania.

drinking water, using a credible approach that relies on the best available science, as well as independent sources of information. The conferees expect the study to be conducted through a transparent, peer-reviewed process that will ensure the validity and accuracy of the data.” In accordance with this direction from Congress, EPA conducted extensive stakeholder outreach to solicit advice regarding the design of the study. In February 2011, EPA submitted a draft study plan to the Science Advisory Board for peer review. In March and May 2011, the Science Advisory Board subcommittee met to provide peer review of the EPA’s draft study plan. Consistent with the operating procedures of the SAB, an opportunity was provided for stakeholders and the public to provide comments for the SAB to take into account during their review. EPA is revising the study plan in response to the SAB’s comments and initial study results are expected by the end of 2012. However, certain portions of the work will be long-term projects that are not likely to be finished at that time. Additional reports of study findings will be published as the longer-term projects progress. While the primary focus of this study is on impacts of hydraulic fracturing on drinking water resources, including surface water impacts, EPA will carefully review and consider any relevant information that is collected to support this study. Likewise, any data collected pursuant to this new rulemaking will be shared with the EPA office that is conducting the Congressionally-mandated study.

Should the report or EPA’s rulemaking survey, in combination with other data gathering and public outreach, indicate that POTWs are already adequately treating shale gas wastewater so that it is not causing pass through or interference with POTW operations, including sludge management, EPA is open to adjusting its rulemaking plans accordingly. However, EPA believes that beginning rulemaking now, and particularly the data collection necessary to support such a rule, is an appropriate step given what we already know about wastewater discharges from the industry.

5. Summary of 2010 Annual Review Findings

The summary of the findings of the 2010 annual review is presented below in Table V–1 (see also the TSD for the final 2010 Plan for greater details). This table uses the following codes to describe the Agency’s findings with respect to each existing industrial category.

(1) Effluent guidelines or pretreatment standards for this industrial category were recently revised through an effluent guidelines rulemaking, or a rulemaking is currently underway. Or EPA recently completed a preliminary study or a detailed study, and no further action is necessary at this time.

(2) Revising the national effluent guidelines or pretreatment standards is not the best tool for this industrial category because most of the toxic and non-conventional pollutant discharges are from one or a few facilities in this industrial category. EPA will consider assisting permitting authorities in

identifying pollutant control and pollution prevention technologies for the development of technology-based effluent limitations by best professional judgment (BPJ) on a facility-specific basis.

(3) Not identified as a priority based on data available at this time (e.g., not among industries that cumulatively comprise 95% of discharges as measured in units of TWPE).

(4) EPA intends to start or continue a detailed study of this industry in its 2011 annual review to determine whether to identify the category for effluent guidelines rulemaking.

(5) EPA is continuing or initiating a preliminary category review or will continue to review discharges using screening-level data because incomplete data are currently available to determine whether to conduct a detailed study or identify for possible revision. EPA typically performs a further assessment of the pollutant discharges before starting a detailed study of the industrial category. This assessment provides an additional level of quality assurance on the reported pollutant discharges and number of facilities that represent the majority of toxic-weighted pollutant discharges. EPA may also develop a preliminary list of potential wastewater pollutant control technologies before conducting a detailed study.

(6) EPA is identifying this industry for a revision of an existing effluent guideline.

Note that dental mercury is not included in the analysis below, as dental facilities do not currently have an effluent guideline.

TABLE V–1—FINDINGS FROM THE 2010 ANNUAL REVIEW OF EFFLUENT GUIDELINES AND PRETREATMENT STANDARDS CONDUCTED UNDER SECTION 301(d), 304(b), 304(g), AND 307(b)

No.	Industry category (listed alphabetically)	40 CFR Part	Findings *
1	Aluminum Forming	467	(3)
2	Asbestos Manufacturing	427	(3)
3	Battery Manufacturing	461	(3)
4	Canned and Preserved Fruits and Vegetable Processing	407	(3)
5	Canned and Preserved Seafood Processing	408	(3)
6	Carbon Black Manufacturing	458	(3)
7	Cement Manufacturing	411	(3)
8	Centralized Waste Treatment	437	(3)
9	Coal Mining	434	(3)
10	Coil Coating	465	(3)
11	Concentrated Animal Feeding Operations (CAFO)	412	(1)
12	Concentrated Aquatic Animal Production	451	(1)
13	Construction and Development	450	(1)
14	Copper Forming	468	(3)
15	Dairy Products Processing	405	(3)
16	Electrical and Electronic Components	469	(3)
17	Electroplating	413	(1)
18	Explosives Manufacturing	457	(3)
19	Ferroalloy Manufacturing	424	(3)
20	Fertilizer Manufacturing	418	(3)
21	Glass Manufacturing	426	(3)

TABLE V-1—FINDINGS FROM THE 2010 ANNUAL REVIEW OF EFFLUENT GUIDELINES AND PRETREATMENT STANDARDS CONDUCTED UNDER SECTION 301(d), 304(b), 304(g), AND 307(b)—Continued

No.	Industry category (listed alphabetically)	40 CFR Part	Findings*
22	Grain Mills	406	(3)
23	Gum and Wood Chemicals	454	(3)
24	Hospitals	460	(1)
25	Ink Formulating	447	(3)
26	Inorganic Chemicals [Note 1]	415	(1) and (3)
27	Iron and Steel Manufacturing	420	(1)
28	Landfills	445	(5)
29	Leather Tanning and Finishing	425	(3)
30	Meat and Poultry Products	432	(1)
31	Metal Finishing	433	(1)
32	Metal Molding and Casting	464	(3)
33	Metal Products and Machinery	438	(1)
34	Mineral Mining and Processing	436	(5)
35	Nonferrous Metals Forming and Metal Powders	471	(3)
36	Nonferrous Metals Manufacturing	421	(2)
37	Oil and Gas Extraction	435	(6)
38	Ore Mining and Dressing	440	(2)
39	Organic Chemicals, Plastics, and Synthetic Fibers [Note 1]	414	(1) and (3)
40	Paint Formulating	446	(3)
41	Paving and Roofing Materials (Tars and Asphalt)	443	(3)
42	Pesticide Chemicals	455	(3)
43	Petroleum Refining	419	(3)
44	Pharmaceutical Manufacturing	439	(3)
45	Phosphate Manufacturing	422	(3)
46	Photographic	459	(3)
47	Plastic Molding and Forming	463	(5)
48	Porcelain Enameling	466	(3)
49	Pulp, Paper, and Paperboard	430	(5)
50	Rubber Manufacturing	428	(3)
51	Soaps and Detergents Manufacturing	417	(3)
52	Steam Electric Power Generating	423	(1)
53	Sugar Processing	409	(3)
54	Textile Mills	410	(3)
55	Timber Products Processing	429	(3)
56	Transportation Equipment Cleaning	442	(3)
57	Waste Combustors	444	(5)

* The descriptions of the "Findings" codes are presented immediately prior to this table.

Note 1: Two codes ("(1)" and "(3)") are used for this category as both codes are applicable to this category and do not overlap. The first code ("(1)") refers to the ongoing effluent guidelines rulemaking for the Chlorinated and Chlorinated Hydrocarbons (CCH) manufacturing sector, which includes facilities currently regulated by the OCPSF and Inorganics effluent guidelines. The second code ("(3)") indicates that the remainder of the facilities in these two categories does not represent a hazard priority at this time.

VI. EPA's 2010 Evaluation of Categories of Indirect Dischargers Without Categorical Pretreatment Standards To Identify Potential New Categories for Pretreatment Standards

A. EPA's Evaluation of Pass Through and Interference of Toxic and Non-Conventional Pollutants Discharged to POTWs

All indirect dischargers are subject to general pretreatment standards (40 CFR part 403), including a prohibition on discharges causing "pass through" or "interference" (See 40 CFR 403.5). All POTWs with approved pretreatment programs must develop local limits to implement the general pretreatment standards. All other POTWs must develop such local limits where they have experienced "pass through" or "interference" and such a violation is likely to recur. There are approximately 1,500 POTWs with approved

pretreatment programs and 13,500 small POTWs that are not required to develop and implement pretreatment programs.

In addition, EPA establishes technology-based national regulations, termed "categorical pretreatment standards," for categories of industry discharging pollutants to POTWs that may pass through, interfere with or otherwise be incompatible with POTW operations (CWA section 307(b)). Generally, categorical pretreatment standards are designed such that wastewaters from direct and indirect industrial dischargers are subject to similar levels of treatment. EPA has promulgated such pretreatment standards for 35 industrial categories.

One of the tools traditionally used by EPA in evaluating whether pollutants "pass through" a POTW, is a comparison of the percentage of a pollutant removed by POTWs with the percentage of the pollutant removed by

discharging facilities applying BAT. Pretreatment standards for existing sources are technology based and are analogous to BAT effluent limitations guidelines. In most cases, EPA has concluded that a pollutant passes through the POTW when the median percentage removed nationwide by representative POTWs (those meeting secondary treatment requirements) is less than the median percentage removed by facilities complying with BAT effluent limitations guidelines for that pollutant.

This approach to the definition of "pass through" satisfies two competing objectives set by Congress: (1) That standards for indirect dischargers be equivalent to standards for direct dischargers; and (2) that the treatment capability and performance of POTWs be recognized and taken into account in

regulating the discharge of pollutants from indirect dischargers.

The term “interference” means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and (2) therefore is a cause of a violation of any requirement of the POTW’s NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with applicable regulations or permits. See 40 CFR 403.3(k). To determine the potential for “interference,” EPA generally evaluates the industrial indirect discharges in terms of: (1) The compatibility of industrial wastewaters and domestic wastewaters (*e.g.*, type of pollutants discharged in industrial wastewaters compared to pollutants typically found in domestic wastewaters); (2) concentrations of pollutants discharged in industrial wastewaters that might cause interference with the POTW collection system, the POTW treatment system, or biosolids disposal options; and (3) the potential for variable pollutant loadings to cause interference with POTW operations (*e.g.*, batch discharges or slug loadings from industrial facilities interfering with normal POTW operations).

If EPA determines a category of indirect dischargers causes pass through or interference, EPA would then consider the BAT and BPT factors (including “such other factors as the Administrator deems appropriate”) specified in section 304(b) to determine whether to establish pretreatment standards for these activities. Examples of “such other factors” include a consideration of the magnitude of the hazard posed by the pollutants discharged as measured by: (1) The total annual TWPE discharged by the industrial sector; and (2) the average TWPE discharged among facilities that discharge to POTWs. Additionally, EPA would consider whether other regulatory tools (*e.g.*, use of local limits under part 403) or voluntary measures would better control the pollutant discharges from this category of indirect dischargers. For example, EPA relied on a similar evaluation of “pass through potential” in its prior decision not to promulgate national categorical pretreatment standards for the Industrial Laundries industry. See 64 FR 45071 (August 18, 1999). EPA noted in this 1999 final action that, “While EPA has broad discretion to promulgate such [national categorical pretreatment]

standards, EPA retains discretion not to do so where the total pounds removed do not warrant national regulation and there is not a significant concern with pass through and interference at the POTW.” See 64 FR 45077 (August 18, 1999).

B. Hospitals (Part 460) (Health Care Industry Detailed Study of the Management of Unused Pharmaceuticals)

Pharmaceutical chemicals have been detected in our nation’s waterways, leading to concerns that these compounds may affect aquatic life and possible human health through drinking water sources. As a result of public comments on the Final 2006 Effluent Guidelines Program Plan, EPA initiated a study of unused pharmaceutical disposal practices at health care facilities. The focus of this study was on disposal to water via sewers. EPA studied medical facilities; including, hospitals, hospices, long-term care facilities, health care clinics, physician offices, and veterinary facilities. A standard disposal practice at many health care facilities is to flush unused pharmaceuticals down the toilet or drain.

Unused pharmaceuticals include leftover medication that is expired, not dispensed, and/or partially used, and residues from delivery devices. During the study, EPA conducted intensive outreach to over 700 stakeholders and evaluated a range of management practices to reduce the generation of unused pharmaceuticals and their disposal down the drain. Based on the information collected through the outreach, EPA has drafted a guidance document, “Best Management Practices for Unused Pharmaceuticals at Health Care Facilities”. The guidance document was made available for a 60 day public review and comment as announced in a **Federal Register** Notice, published on September 8, 2010. The draft guidance document was posted on the Agency’s Web site.

In summary, the guidance recommends the following practices to prevent or minimize the amount of pharmaceuticals being disposed in water:

- Conduct an inventory of pharmaceuticals and pharmaceutical waste to quantify the amount of medication the facility is disposing of;
- Reduce pharmaceutical waste by reviewing purchasing practices, use limited dose or unit dose dispensing, replace pharmaceutical samples with vouchers, and perform on-going inventory control and stock rotation;

- Reuse or donate unused pharmaceuticals when possible; return unused pharmaceuticals to the pharmacy; send unused pharmaceuticals to a reverse distributor for credit and proper disposal in accordance with the facility’s state environmental regulations; properly identify and manage hazardous pharmaceutical wastes in accordance with federal and state regulations; use EPA recommended practices to dispose of non-hazardous pharmaceutical waste at the facility;
- Segregate waste for disposal to ensure regulations are met;
- Train staff in proper disposal methods.

EPA received 89 comments on the proposed guidance on November 8, 2010 and is reviewing suggested changes to the document and working with relevant Federal Agencies to ensure any incorporated comments are consistent with other Federal laws and policies.

C. Dental Amalgam

In the 2008 final Plan, EPA decided it would not initiate an effluent limitation guideline rulemaking for discharges of dental amalgam from dentists’ offices. However, at that time EPA indicated it would examine whether a significant majority of dentists began utilizing amalgam separators and stated that after such examination, EPA may re-evaluate its decision not to initiate an effluent guidelines rulemaking for this sector.

After assessing the progress made under the Memorandum of Understanding to Reduce Dental Amalgam Discharges (MOU), and other factors, EPA announced, in September 2010, it will initiate a rulemaking to control mercury associated with dental amalgam discharges to sewer systems from dental offices.

Background

Across the United States, many States and municipal wastewater treatment plants (publicly owned treatment works—POTWs) are working toward the goal of reducing discharges of mercury into sewer collection systems. Many studies have been conducted in an attempt to identify the sources of mercury entering these collection systems. According to the 2002 Mercury Source Control and Pollution Prevention Program Final Report prepared for the National Association of Clean Water Agencies (NACWA), dental offices are the largest source of mercury discharges to POTWs. The American

Dental Association (ADA) estimated in 2003 that up to 50% of mercury entering POTWs was caused by dental offices (see DCN 04698).

EPA estimates there are approximately 160,000 dentists working in 120,000 dental offices that use or remove amalgam in the United States—almost all of which discharge their wastewater exclusively to POTWs. Mercury in dental wastewater originates from waste particles associated with the placement and removal of amalgam fillings. Most dental offices currently use some type of basic filtration system to reduce the amount of mercury solids passing into the sewer system. However, best management practices and the installation of amalgam separators, which generally have a removal efficiency of 95% or greater, can reduce discharges even further. A recent study funded by NACWA (see DCN 04225) concluded that the use of amalgam separators results in reductions in POTW influent concentrations and biosolids mercury concentrations.

In December, 2008 EPA entered into the MOU with NACWA and ADA. The purpose of the MOU was to estimate the number of dental facilities with amalgam separators installed, establish interim goals for increases in the number of separators voluntarily installed, and conduct outreach to dentists.

EPA learned from several states that their efforts to increase the number of amalgam separator installations on a voluntary basis were largely unsuccessful. Additionally, several environmental organizations have urged EPA to establish pretreatment standards for dental amalgam. The Quicksilver Caucus commented on the preliminary 2010 Plan requesting that EPA initiate a rulemaking to establish pretreatment standards for discharges of dental amalgam.

Given the human health and aquatic-life impacts associated with mercury, the level of stakeholder interest, and the availability of a technological solution, EPA decided to initiate rulemaking to develop pretreatment standards for dental mercury to more thoroughly and expeditiously address this water pollution problem.

VII. The Final 2010 Effluent Guidelines Program Plan

EPA views the effluent guidelines planning process as a mechanism designed to promote regular and transparent priority-setting on the part of the Agency. A plan is ultimately a statement of choices and priorities. These priorities necessarily need to take into account all the other statutory

mandates and policy initiatives designed to implement the CWA's goals and the funds appropriated by Congress to execute them.

By requiring this planning process, culminating in the publication of a plan after public notice and comment, Congress assured that EPA would regularly re-evaluate its policy choices and priorities (including whether to identify an activity for effluent guidelines rulemaking) to account for changed circumstances. Ultimately, however, Congress left the content of the plan to EPA's discretion—befitting the role that effluent guidelines play in the overall structure of the CWA and their relationship to other tools for addressing water pollution.

A. EPA's Schedule for Annual Review and Revision of Existing Effluent Guidelines Under Section 304(b)

1. Schedule for 2011 and 2012 Annual Reviews Under Section 304(b)

As noted in section IV.B, CWA section 304(m)(1)(A) requires EPA to publish a biennial plan that establishes a schedule for the annual review and revision, in accordance with section 304(b), of the effluent guidelines that EPA has promulgated under that section. Today's plan announces EPA's schedule for performing its section 304(b) reviews for 2011 and 2012. The schedule is to coordinate its annual review of existing effluent guidelines under section 304(b) with its publication of preliminary and final Effluent Guidelines Program Plans under CWA section 304(m). In other words, in odd-numbered years, EPA intends to complete its annual review upon publication of the preliminary Effluent Guidelines Program Plan that EPA must publish for public review and comment under CWA section 304(m)(2). In even-numbered years, EPA intends to complete its annual review upon the publication of the final Plan. EPA's 2011 annual review is the review cycle ending upon the publication of the preliminary Plan in 2011 and its 2012 annual review is the review cycle ending upon publication of the 2012 final Plan.

2. Schedule for Revision of Effluent Guidelines Promulgated Under Section 304(b)

Currently, EPA is engaged in effluent limitations guideline (ELG) rulemakings to revise the following existing guidelines:

Steam Electric Power Generation—this rulemaking involves the revision of an existing ELG for about 1200 power-generating facilities with a particular

focus on about 500 coal-fired power plants. The decision to revise the current effluent guidelines for this industry was largely driven by the high level of toxic-weighted pollutant discharges from coal fired power plants and the expectation that these discharges will increase significantly in the next few years as new air pollution controls are installed. EPA is under a consent decree obligation to issue a final rule for this industry in 2014.

- Chlorine and Chlorinated Hydrocarbons Manufacturing—EPA is currently conducting a rulemaking to potentially revise existing effluent guidelines and pretreatment standards for the following categories: Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) and Inorganic Chemicals (to address discharges from Vinyl Chloride and Chlor-Alkali facilities identified for effluent guidelines rulemaking in the final 2004 Plan, now termed the “Chlorine and Chlorinated Hydrocarbon (CCH) manufacturing” rulemaking). EPA previously indicated it would conduct an industry survey for this effluent guidelines rulemaking (April 18, 2006; 71 FR 19887). EPA is considering its next steps for this survey and the rulemaking as it reviews data from a voluntary industry monitoring program. EPA worked with industry to develop the extensive monitoring program to better understand the category's dioxin discharges.

In addition, EPA is today announcing initiation of an effluent limitations guideline (ELG) rulemaking to revise the following existing guidelines:

- Oil and Gas Extraction—As explained in Section V.B.2, EPA is initiating a rulemaking for Coalbed Methane Extraction, a currently unregulated subcategory of the Oil and Gas Extraction Point Source Category. Because of concern over high TDS levels in the wastewater for Coalbed, availability of treatment technologies, and the fact that Coalbed Methane production will continue to grow, EPA believes the initiation of a rulemaking to address direct discharges to surface waters and discharges to POTWs is appropriate.

B. Identification of Point Source Categories Under CWA Section 304(m)(1)(B)

The Effluent Guidelines Program Plan must identify categories of sources discharging non-trivial amounts of toxic or non-conventional pollutants for which EPA has not published effluent limitations guidelines under section 304(b)(2) or new source performance standards (NSPS) under section 306. See CWA section 304(m)(1)(B). The Plan

must also establish a schedule for the promulgation of effluent guidelines for the categories identified under section 304(m)(1)(B) not later than three years after such identification. See CWA section 304(m)(1)(C). EPA is currently taking the following actions on new industry categories:

- **Airport De-icing**—This final ELG rulemaking addresses the environmental impact of aircraft and airfield deicing fluid on the environment at the about 200 airports in this country that conduct deicing operations. This rule is complicated by the shared responsibility for deicing operations between the airports and the airlines that use them. EPA currently plans to issue a final rule for this category in 2011.

- **Drinking Water Treatment Industry**—EPA is not at this time continuing its effluent guidelines rulemaking for the Drinking Water Treatment industry. In the 2004 Plan, EPA announced that it would begin development of a regulation to control the pollutants discharged from drinking water treatment plants. See 69 FR 53720 (September 2, 2004). Based on a preliminary study and on public comments, EPA was interested in the potential volume of discharges associated with drinking water facilities. The preliminary data were not conclusive, and the Agency proceeded with additional study and analysis of treatability, including an industry survey. After considering extensive information about the industry, its treatment residuals, wastewater treatment options, and discharge characteristics, and after considering other priorities, EPA has suspended work on this rulemaking.

The ELG Program is also developing the cooling water intake existing facility rule—Under section 316(b) of the CWA, EPA plans to issue a final rule in 2012 addressing the withdrawal of trillions of aquatic organisms from waters of the U.S. by about 1260 power plants and manufacturing facilities which withdraw water for cooling purposes.

Also for the 2010 Plan, EPA is issuing the detailed study report for the coalbed methane industry and is issuing the preliminary study report for the Ore Mining and Dressing industry, and will be taking no further action on this industry at this time. EPA initiated a preliminary study of cellulose manufacturers in the Plastic Molding and Forming category (part 463) due, in part, to high carbon disulfide discharges which were revealed during the 2010 review.

Finally, EPA interprets section 304(m)(1)(B) to give EPA the discretion

to identify in the Plan only those potential new categories for which an effluent guidelines rulemaking may be an appropriate tool for controlling discharges. Therefore, EPA does not identify in the Plan all potential new categories discharging toxic and non-conventional pollutants. Rather, EPA identifies only those potential new categories for which it believes that effluent guidelines may be appropriate, taking into account Agency priorities, resources and the full range of other CWA tools available for addressing industrial discharges. In this Plan, EPA is not identifying for rulemaking any new categories discharging toxic and non-conventional pollutants.

EPA is continuously investigating and solicits comment on how to improve its analyses (see section IX. Request for Comment and Information for the 2011 Annual Reviews).

C. Identification of Guidelines for Pretreatment of Pollutants under CWA Section 304(g)(1) and 307(b)(1)

EPA has decided to initiate rulemaking for two industries to address their indirect industrial discharges to POTWs. This includes the indirect discharge of dental amalgam from dental offices and wastewater from shale gas extraction to publicly owned treatment works (POTWs) that may cause pass-through, interfere with, or are otherwise incompatible with POTWs.

With regard to dental amalgam discharges from dental offices, EPA was asked by some states and environmental groups to revisit its 2008 decision not to initiate rulemaking for this industry. Dental amalgam contains mercury, which is a concern to human health because mercury is a persistent, bioaccumulative toxic element. EPA estimates that dentists discharge approximately 3.7 tons of mercury each year to publicly owned treatment works. In addition, EPA has not seen significant increases in the installation of amalgam separators under current voluntary efforts. Consequently, EPA has decided to initiate rulemaking which will reduce mercury discharges from dental facilities more completely, and in a more predictable timeframe than has been demonstrated through voluntary means alone.

EPA also is initiating rulemaking for shale gas extraction, another subcategory of the Oil and Gas Extraction Point Source Category, which is now subject to effluent guidelines under this Category but not to applicable pretreatment standards. Because of concern over high TDS levels in the wastewater for shale gas

extraction, availability of treatment technologies, and the fact that shale gas extraction production will continue to grow, EPA believes the initiation of a rulemaking to address discharges to POTWs is appropriate.

D. Current Rulemakings

Airport Deicing and Steam Electric Power Generation:

Schedules

Airport Deicing:

- Final ELG Rule—Fall 2011
- Steam Electric Power Generation:
 - Proposed Rule—July 2012
 - Final Rule—January 2014

E. New Rulemakings

Dental Amalgam

Schedule to Develop the Regulation for Dental Amalgam:

- Proposed Rule—October 2011
- Final Rule—October 2012

Coalbed Methane Extraction

Schedule to Develop the Regulation for Coalbed Methane Extraction:

- Proposed Rule—2013

Shale Gas Extraction

Schedule to Develop the Regulation for Shale Gas Extraction:

- Proposed Rule—2014

These Agency decisions, announcements and the studies described previously fulfill EPA's obligations to annually review both existing effluent limitations guidelines for direct dischargers and existing pretreatment standards for indirect dischargers under CWA sections 304(b) and (g), as well as other review requirements under CWA section 301(d) and 307(b).

VIII. EPA's 2011 Annual Review of Existing Effluent Guidelines and Pretreatment Standards Under CWA Sections 301(d), 304(b), 304(g), 304(m) and 307(b)

This notice also provides EPA's preliminary thoughts concerning its 2011 annual reviews under CWA sections 304(b) and 304(g) as well as its reviews under 301(d) and 307(b) and solicits comments, data and information to assist EPA in performing these reviews.

A. Schedule for the 2011 Annual Reviews Under Section 304(b)

As noted in section IV.B, CWA section 304(m)(1)(A) requires EPA to publish a Plan every two years that establishes a schedule for the annual review and revision, in accordance with section 304(b), of the effluent guidelines that EPA has promulgated under that

section. This final 2010 Plan announces EPA's schedule for performing its section 304(b) reviews in 2011.

The schedule is as follows: EPA will coordinate its annual review of existing effluent guidelines with its publication of the preliminary and final Plans under CWA section 304(m). In other words, in odd-numbered years, EPA intends to complete its annual review upon publication of the preliminary Plan that EPA must publish for public review and comment under CWA section 304(m)(2). In even-numbered years, EPA intends to complete its annual review upon the publication of the final Plan. EPA's 2010 annual review is the review cycle ending upon the publication of this final 2010 Plan.

EPA is coordinating its annual reviews with publication of Plans under section 304(m) for several reasons. First, the annual review is inextricably linked to the planning effort, because the results of each annual review can inform the content of the preliminary and final Plans, *e.g.*, by identifying candidates for effluent guidelines revision for which EPA can schedule rulemaking in the Plan, or by calling to EPA's attention point source categories for which EPA has not promulgated effluent guidelines. Second, even though not required to do so under either section 304(b) or section 304(m), EPA believes that the public interest is served by periodically presenting to the public a description of each annual review (including the review process employed) and the results of the review. Doing so at the same time EPA publishes preliminary and final plans makes both processes more transparent. Third, by requiring EPA to regularly review all existing effluent guidelines, Congress appears to have intended that each successive review would build upon the results of earlier reviews. Therefore, by describing the 2010 annual review along with the final 2010 final Plan, EPA hopes to gather and receive data and information that will inform its reviews for 2011 and 2012 and the final 2012 Plan.

IX. Request for Comment and Information for the 2011 Annual Reviews

A. EPA Requests Information on

1. Data Sources and Methodologies

EPA solicits comments on whether EPA used the correct evaluation factors, criteria, and data sources in conducting its annual review and developing this final Plan. EPA also solicits comment on other data sources EPA can use in its annual reviews and biennial planning process. Please see the docket for a more

detailed discussion of EPA's analysis supporting the reviews in this notice (see DCN 07320).

EPA is also soliciting comments on ways to enhance its Plan analysis. In particular: Are there new or additional factors that should be brought to bear for screening existing industries for revisions to their current guidelines? Are there approaches that could be used to better identify new industries that currently do not have guidelines that should? EPA is interested in receiving comment on all aspects of its current methodology.

2. Climate Change and Water Efficiency

EPA solicits comments, and data and information on whether the actions described under this Plan will have effects on water conservation or on climate change. In particular, will certain technologies or actions help to conserve water, and thereby energy and thus reduce the consumption of fossil fuels, or will the actions envisioned by this plan waste water and/or energy resources. Likewise, will the actions and potential industry changes contemplated by this Plan result in greater emission of green house gases, or are there opportunities for industry to reduce green house gas emissions.

3. BPJ Permit-Based Support

EPA solicits comments on whether, and if so, how the Agency should provide EPA Regions and States with permit-based support instead of revising effluent guidelines (*e.g.*, when the vast majority of the hazard is associated with one or a few facilities). EPA solicits comment on categories for which the Agency should provide permit-based support.

4. Implementation Issues Related to Existing Effluent Guidelines and Pretreatment Standards

As a factor in its decision-making, EPA considers opportunities to eliminate inefficiencies or impediments to pollution prevention or technological innovation, or opportunities to promote innovative approaches such as water quality trading, including within-plant trading. Consequently, EPA solicits comment on implementation issues related to existing effluent guidelines and pretreatment standards.

5. EPA's Evaluation of Categories of Indirect Dischargers Without Categorical Pretreatment Standards To Identify Potential New Categories for Pretreatment Standards

EPA solicits comments on its evaluation of categories of indirect dischargers without categorical

pretreatment standards. Specifically, EPA solicits wastewater characterization data (*e.g.*, wastewater volumes, concentrations of discharged pollutants), current examples of pollution prevention, treatment technologies, and local limits for all industries without pretreatment standards. EPA also solicits comment on whether there are industrial sectors discharging pollutants that cause interference issues that cannot be adequately controlled through the general pretreatment standards. Finally, EPA solicits comment on how better to access and aggregate discharge data reported to local pretreatment programs. Currently, pollutant discharge data are collected by the local pretreatment program to demonstrate compliance with pretreatment standards and local limits but are not typically electronically transmitted to the States or EPA Regions.

6. Data and Information on Discharges of Pollutants From Waste Combustors

EPA solicits data and information on discharges of wastewater from waste combustors. DMR data suggest the consistent discharge of metals and possible discharge of pesticides from waste combustors. EPA's analysis for the 2010 ELG Final Plan shows that pesticides are discharged at concentrations below limits of detection. EPA is requesting information on waste combustors metals and pesticide discharges, to determine if they are present at concentrations below treatable levels.

7. Data and Information on Discharges of Pollutants From Shale Gas Extraction

EPA solicits data and information on the pollutants generated by the Shale Gas extraction industry. In particular EPA is soliciting data and information on the type of pollutants in shale gas wastewaters, including the type and toxicity of additives, the volumes of flowback and concentrations of the pollutants in the flowback, the fate and transport of pollutants to ground waters, and data and information on the pass-through of pollutants at publicly owned treatment works (POTWs). EPA also solicits documented impacts of these pollutants on aquatic life and human health.

8. Data and Information on Discharges of Nanosilver From Industrial Manufacturing

Nanosilver is becoming a more commonly used substance in industrial materials and commercial products as an active pesticide ingredient. In some uses, fabric is impregnated with

nanosilver as an anti-microbial during manufacturing and nanosilver discharges may result. In other applications, nanosilver is used as a preservative in textile products which could also lead to nanosilver discharges. Other products, such as household washing machines, are being manufactured with the washer drum coated with nanosilver polymers to kill bacteria during clothes laundering. Since many of the nanosilver applications have the potential to create a source of silver in wastewater discharges from industries using nanosilver in the manufacture of products, or use of products containing nanosilver, EPA is interested in gathering as much information as possible on the fate, transport and effects of nanosilver on the aquatic environment and human health.

EPA is soliciting data and information on the manufacture, use, and environmental release of silver materials, including nanosilver. EPA is requesting information on the manufacturing of silver materials, including:

- Raw silver products, such as colloidal nanosilver;
- Intermediates such as polymers or fibers embedded with silver, nanosilver, or silver compounds; and
- End products, such as silver-embedded textile and plastic products, or appliances with nanosilver coated surfaces.

Dated: October 20, 2011.

Nancy K. Stoner,

Acting Assistant Administrator for Water.

[FR Doc. 2011-27742 Filed 10-25-11; 8:45 am]

BILLING CODE 6560-50-P

FEDERAL MARITIME COMMISSION

Notice of Agreements Filed

The Commission hereby gives notice of the filing of the following agreements under the Shipping Act of 1984. Interested parties may submit comments on the agreements to the Secretary, Federal Maritime Commission, Washington, DC 20573, within ten days of the date this notice appears in the **Federal Register**. Copies of the agreements are available through the Commission's Web site (<http://www.fmc.gov>) or by contacting the Office of Agreements at (202) 523-5793 or tradeanalysis@fmc.gov.

Agreement No.: 012032-008.

Title: CMA CGM/MSK/Maersk Line North and Central China-U.S. Pacific Coast Two-Loop Space Charter, Sailing and Cooperative Working Agreement.

Parties: A.P. Moller-Maersk A/S, CMA CGM S.A., and Mediterranean Shipping Company S.A.

Filing Party: Wayne R. Rohde, Esq.; Cozen O'Connor; 1627 I Street, NW., Suite 1100, Washington, DC 20006.

Synopsis: The Amendment provides for a further slot exchange between Maersk Line and MSC with corresponding changes in the Agreement and delays the introduction of a service loop.

Agreement No.: 012142.

Title: Vessel Sharing Agreement for Transpacific Service between Hainan P O Shipping Co., Ltd. and T.S. Lines.

Parties: Hainan P O Shipping Co., Ltd. and T.S. Lines Ltd.

Filing Party: Neal A. Mayer, Esq.; Hoppel, Mayer, & Coleman; 1050 Connecticut Avenue, NW., 10th Floor, Washington, DC 20036.

Synopsis: The agreement authorizes the parties to share vessel space in the trade between U.S. West Coast ports and ports in China and Korea.

By Order of the Federal Maritime Commission.

Dated: October 21, 2011.

Karen V. Gregory,
Secretary.

[FR Doc. 2011-27706 Filed 10-25-11; 8:45 am]

BILLING CODE 6730-01-P

FEDERAL RESERVE SYSTEM

Formations of, Acquisitions by, and Mergers of Bank Holding Companies

The companies listed in this notice have applied to the Board for approval, pursuant to the Bank Holding Company Act of 1956 (12 U.S.C. 1841 *et seq.*) (BHC Act), Regulation Y (12 CFR part 225), and all other applicable statutes and regulations to become a bank holding company and/or to acquire the assets or the ownership of, control of, or the power to vote shares of a bank or bank holding company and all of the banks and nonbanking companies owned by the bank holding company, including the companies listed below.

The applications listed below, as well as other related filings required by the Board, are available for immediate inspection at the Federal Reserve Bank indicated. The application also will be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the standards enumerated in the BHC Act (12 U.S.C. 1842(c)). If the proposal also involves the acquisition of a nonbanking company, the review also includes whether the acquisition of the nonbanking company complies with the

standards in section 4 of the BHC Act (12 U.S.C. 1843). Unless otherwise noted, nonbanking activities will be conducted throughout the United States.

Unless otherwise noted, comments regarding each of these applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than November 21, 2011.

A. Federal Reserve Bank of Atlanta (Chapelle Davis, Assistant Vice President) 1000 Peachtree Street, NE., Atlanta, Georgia 30309:

1. *Raymond James Financial, Inc.*, St. Petersburg, Florida; to become a bank holding company by acquiring 100 percent of the voting shares of Raymond James Bank, FSB, St. Petersburg, Florida, to be named Raymond James Bank, N.A., upon its conversion to a national bank.

B. Federal Reserve Bank of Kansas City (Dennis Denney, Assistant Vice President) 1 Memorial Drive, Kansas City, Missouri 64198-0001:

1. *Bluechip Bancshares, LLC*, Oklahoma City, Oklahoma; to become a bank holding company by acquiring 100 percent of the voting shares of Elmore City Bancshares, Inc., and First State Bank, both in Elmore City, Oklahoma.

Board of Governors of the Federal Reserve System.

Dated: October 21, 2011.

Robert deV. Frierson,

Deputy Secretary of the Board.

[FR Doc. 2011-27675 Filed 10-25-11; 8:45 am]

BILLING CODE 6210-01-P

FEDERAL RETIREMENT THRIFT INVESTMENT BOARD

Employee Thrift Advisory Council

TIME AND DATE: 2 p.m. (EST), November 15, 2011.

PLACE: 4th Floor, Conference Room, 1250 H Street, NW., Washington, DC.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. Approval of the minutes of the April 18, 2011 meeting.
2. Report of the Executive Director on Thrift Savings Plan status:
 - (a) Updated TSP statistics.
 - (b) Update on implementation of Roth TSP accounts.
3. Legislation:
 - (a) Update on Board Member nominations.
 - (b) Nonappropriated Fund status.
 - (c) 3-year statute of limitations for claims against the TSP.
 - (d) IRS Levy.
 - (e) TSP contributions from terminal Annual Leave.