
2010 Effluent Guidelines Program Plan: Update for State and Regional Pretreatment Coordinators



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Webcast Overview

- Background on the effluent guidelines program and 304(m) planning process.
- Review results of 2009 annual review of existing effluent guidelines and categorical pretreatment standards (ELGs).
- Review status of on-going studies supporting annual review of ELGs:
 - Coalbed Methane Extraction;
 - Health Care (Unused Pharmaceuticals) – main focus of webinar;
 - Ore Mining and Dressing.
- Review schedule and receive feedback on direction of 304(m) studies.



Background: What are Effluent Guidelines?

- National technology-based regulations for controlling industrial wastewater discharges to surface waters (direct dischargers) and sewage treatment plants (indirect dischargers);
- Industry Specific (e.g., pulp & paper, iron and steel, metal finishing);
- Performance-based limitations and standards (specific technology or pollution prevention practice not required);
- Based on demonstrated feasible technology for the industrial category;
- Economically Achievable; and
- Incorporated into permits or other controls for discharges to surface waters (direct dischargers) or sewage treatment plants (indirect dischargers).



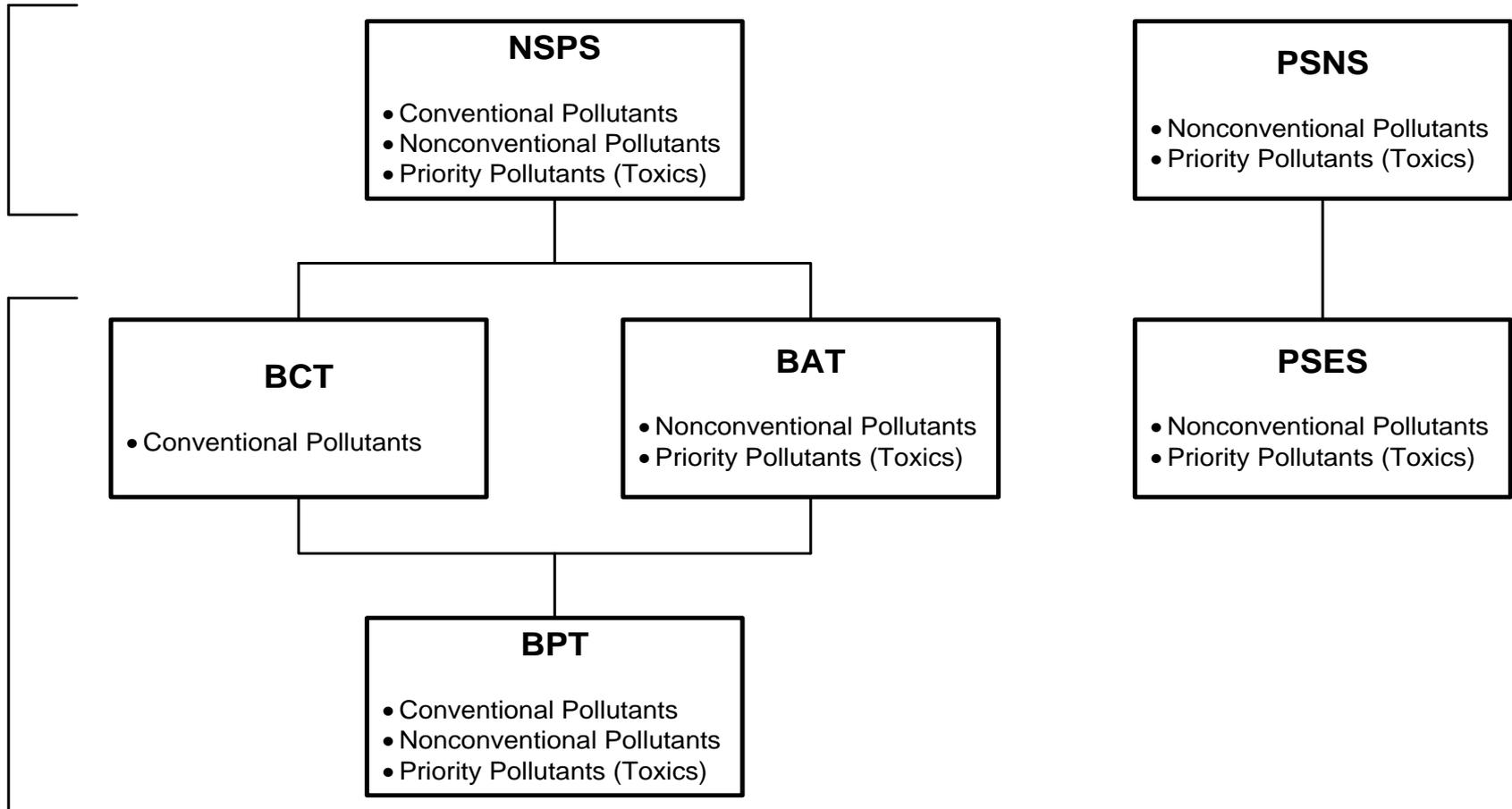
Background: Effluent Guidelines – Levels of Control

Direct Dischargers

Indirect Dischargers

New Sources

Existing Sources



Background: Success of the Effluent Guidelines Program

- EPA has published technology-based limits for 57 major industrial categories (with over 450 subcategories) in the thirty-seven year history of the effluent guidelines program (started in the 1972 Clean Water Act).
- These national, technology-based limits are:
 - Incorporated into permits for more than 60,000 facilities;
 - Annually prohibit the discharge of over 700 billion pounds of pollutants to Nation's surface waters; and
 - Substantially contribute to improvements in the quality of water nationwide.
- Additionally, effluent guidelines for industrial indirect dischargers are designed to prevent the discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of sewage treatment plants.



Background: Current ELG and Stormwater Rulemakings

- Airport Deicing ELGs (comment period extended to 2/26/10)
 - www.epa.gov/guide/airport
- Steam Electric Power Generating ELGs (initiated in September 2009)
 - www.epa.gov/guide/steam
 - development of industry survey underway
- Chlorine and Chlorinated Hydrocarbon (CCH) ELGs (reviewing results of industry monitoring program)
 - www.epa.gov/guide/cch
- Post Construction (initiated in October 2009)
 - cfpub.epa.gov/npdes/stormwater/rulemaking.cfm
 - development of industry survey underway



Background: Effluent Guidelines Planning

- Under section 304(b) the CWA requires EPA to annually review its existing effluent guidelines for direct discharges and revise such guidelines “if appropriate.”
- For point source categories with existing pretreatment standards:
 - EPA must annually review these existing pretreatment standards and revise such guidelines “if appropriate (section 304(g)) or “from time to time, as control technologies, processes, operating methods, or other alternatives change” (section 307(b)).
- For point source categories without existing pretreatment standards:
 - EPA must establish pretreatment standards for pollutants not susceptible to treatment by Publicly Owned Treatment Works (POTWs) or that would interfere with the operation of POTWs (section 307(b)).



Background: Effluent Guidelines Planning – Section 304(m)

- The 1987 Clean Water Act Amendments added Section 304(m), which re-enforced Congress' intent that effluent guidelines keep pace with pollution prevention and treatment technology.
- Every other year: after proposal and public comment, EPA must publish a two-year plan for the guidelines program which:
 - Identifies a schedule for the annual review of effluent guidelines conducted under section 304(b);
 - Identifies and establishes a schedule for any effluent guidelines revisions; and
 - Identifies any point source categories not currently subject to effluent guidelines that discharge nontrivial amounts of toxics and establishes a schedule to take final action within three years



Background: Effluent Guidelines Planning – Section 304(m)

- In recent practice:
 - Preliminary Plan for public comment every odd-numbered year; and
 - Final Plan every even-numbered year.

Year	Preliminary Plan	Final Plan
1990	August 25, 1988 (53 FR 32584)	January 2, 1990 (55 FR 80)
1992	May 7, 1992 (57 FR 19748)	September 8, 1992 (57 FR 41000)
1994	May 18, 1994 (59 FR 25859)	August 26, 1994 (59 FR 44234)
1996	July 3, 1996 (61 FR 35041)	October 7, 1996 (61 FR 52581)
1998	May 28, 1998 (63 FR 29203)	September 4, 1998 (63 FR 47285)
2000	June 16, 2000 (65 FR 37783)	August 31, 2000 (65 FR 53008)
2002	June 18, 2002 (67 FR 41417)	August 27, 2002 (67 FR 55012)
2004	December 31, 2003 (68 FR 75515)	September 2, 2004 (69 FR 53705)
2006	August 29, 2005 (70 FR 51042)	December 21, 2006 (71 FR 76644)
2008	October 30, 2007 (72 FR 61335)	September 15, 2008 (73 FR 53218)



Background: 2010 Effluent Guidelines Program Plan

- EPA identified three industrial sectors for detailed studies in final 2008 Plan:
 - Coalbed Methane Extraction;
 - Steam Electric Power Generation; and
 - Health Care Industry (Unused Pharmaceutical Management).



Settling Pond for CBM Produced Water (PA)



EPA Sampling at Coal-fired Power Plant (AL)



Unused Drugs at Nebraska Veterans Home, Grand Island, NE



Background: 2010 Effluent Guidelines Program Plan

- EPA also announced it would continue its preliminary category review of the Ore Mining and Dressing category (ranks among top dischargers of toxic pollutants).
- The preliminary 2010 plan presents the 2009 annual reviews of existing effluent guidelines and pretreatment standards for all 57 point source categories, which are required by CWA Sections 304(b)/307(b):
 - Pollutant discharges from the PCS, ICIS-NPDES, and TRI databases (2007 data);
 - Status updates and findings for the three detailed studies and the preliminary study;
 - Solicits public comment for 2010 annual review and final 2010 Plan.



2009 Annual Review: Summary

- In each annual review of existing ELGs, EPA calculates a measure of toxic loadings [or toxic weighted pound equivalents (TWPE)] for each industry category:
 - $TWPE = \text{Pollutant Mass} \times \text{Toxic Weighting Factor}$.
 - EPA uses these categorical rankings to prioritize its reviews and potential selections for effluent guidelines rulemakings.
- EPA is using 2007 data from TRI, PCS, and ICIS-NPDES data systems.
 - ICIS-NPDES is replacing PCS as the Agency's repository for DMR data. Currently 45 of the 71 States and Territories have migrated to ICIS-NPDES.
- Results from the 2009 annual review will be published in the preliminary 2010 Plan (December 2009).



2009 Annual Review: Summary

- As with previous reviews, EPA is limited by the scope of its databases. For example, the PCS & ICIS-NPDES databases contain information for regulated pollutants for only ~10% of direct discharging facilities. Very limited data on indirect dischargers.
- Based on the 2009 annual review we are not identifying any new industrial sectors for additional studies.



2009 Annual Review: Results & Recommendations

Point Source Category	TRI TWPE *	DMR TWPE	Total TWPE	Rank	Cumulative Percent of Total TWPE
Steam Electric Power Generating	542,000	20,400,000	20,942,000	1	72.6%
Pulp, Paper And Paperboard	460,000	2,730,000	3,190,000	2	83.7%
Fertilizer Manufacturing	4,460	1,100,000	1,104,460	3	87.5%
Organic Chemicals, Plastics And Synthetic Fibers	575,000	413,000	988,000	4	91.0%
Petroleum Refining	172,000	403,000	575,000	5	93.0%
Inorganic Chemicals Manufacturing	54,700	394,000	448,700	6	94.5%
Nonferrous Metals Manufacturing	38,900	343,000	381,900	7	95.8%

* TWPE = Toxic Weighted Pound Equivalents

Source: TRI and DMR Data, 2007



2009 Annual Review: Results & Recommendations

- The categories representing nearly all of the reported toxic pollutant discharges were recently reviewed in the 2004, 2006, or 2008 Plans.
 - Steam Electric Power Generating (Detailed Study, 2009) – now an ELG rulemaking
 - Pulp, Paper And Paperboard (Detailed Study, 2006)
 - Fertilizer Manufacturing (Preliminary Study, 2006)
 - Organic Chemicals, Plastics And Synthetic Fibers (Detailed Study, 2004)
 - Petroleum Refining (Detailed Study, 2004)
 - Inorganic Chemicals Manufacturing (Preliminary Study, 2006)
 - Nonferrous Metals Manufacturing (Preliminary Study, 2006)



Detailed Study: Coalbed Methane Extraction

- **Rationale for Detailed Study:**

- Growing industry sector and potential impacts on the environment (e.g., potential toxic impacts to aquatic communities, potential negative impacts on surface waters used for irrigation).

- **Objectives and Scope of the Detailed Study:**

- Evaluate availability and affordability of technology options for CBM produced water discharges in the current and future CBM basins.
- Evaluate potential environmental issues associated with the discharge of CBM produced water.



Detailed Study: Coalbed Methane Extraction

- **Major Tasks accomplished in 2009:**
 - Obtained OMB approval for a two-part industry survey that will collect technical, economic, and environmental data from a wide range of CBM operations across the Nation. Nearly 300 screener surveys mailed in February and 225 detailed surveys mailed in October 2009.
 - EPA is currently working with operators to complete the detailed survey that collects technical and economic data for EPA's analyses.
 - EPA conducted a site visit to Wyoming to collect data on recently developed CBM produced water treatment technologies.
 - EPA is conducting literature review into the beneficial uses and potential environmental impacts of CBM produced water.



Detailed Study: Coalbed Methane Extraction

- **Schedule:**
 - Compilation
 - Quality assurance review
 - Analysis of survey data to identify available and affordable technologies
 - Final decision on whether to initiate an ELG rulemaking in final 2010 Plan



**CBM Produced Water
Gathering Pipes (WY)**



Detailed Study: Health Care (Unused Pharmaceuticals)

Goals

- Scope of study includes Hospitals, Long Term Care Facilities (LTCFs), Doctors' Offices, Health Care Clinics, Hospices and Veterinary Facilities.
- Summarizing Federal and State Regulations.
- Identify current practices and best management practices.

Preliminary Observations

- Unused pharmaceutical management is a concern to state and local pretreatment programs.
- Current policies for managing unused pharmaceuticals include flushing, disposal in municipal trash, steam sterilization with medical waste, incineration, and using a reverse distributor to return unused pharmaceuticals.



Detailed Study: Health Care (Unused Pharmaceuticals)

Outreach: Since 2007 our outreach has connected with over 700 people.

Industry Survey

- On 12 August 2008 EPA published a first Federal Register Notice for an information collection request for several sectors of this industry. EPA received 31 comments from a variety of stakeholders.
- We decided not to move forward with the survey because we were able to collect much of the information needed to achieve our goals through our outreach efforts.



Detailed Study: Health Care (Unused Pharmaceuticals)

- **Next Steps**

- Work with stakeholders to develop draft guidance on unused pharmaceutical management for health care industry.
- Publish final guidance with the final 2010 Plan.



Request for Comment: Unused Pharmaceuticals

- Identification of any policies, procedures or guidelines that govern the disposal of unused pharmaceuticals from hospitals and hospices; offices of doctors and mental health practitioners; nursing, long-term care, re-habilitation, and personal care facilities; medical laboratories and diagnostic service facilities; and veterinary care facilities.
- What are the main factors that drive current disposal practices;
- What barriers prevent the reduction or elimination of unused pharmaceuticals to POTWs and/or surface waters. In particular, EPA solicits comment on the extent to which that the Controlled Substances Act complicates the design of an efficacious solution to drug disposal.
- EPA solicits quantitative information or tracking sheets for the past year on the disposal of unused pharmaceuticals via the toilet, drain, or sewer.



Request for Comment: Unused Pharmaceuticals

- EPA solicits data on how control authorities are currently controlling disposal of unused pharmaceuticals via wastewater.
- EPA solicits information on any technologies or BMPs that are available to control, reduce, or eliminate the disposal of unused pharmaceuticals to POTWs.
- EPA solicits qualitative and quantitative data on the effectiveness and annualized costs of the technologies or BMPs that health service facilities use to control or eliminate the discharge of unused pharmaceuticals from their wastewater. EPA is also interested in obtaining information on the current costs (including labor) associated with disposal of unused pharmaceuticals via the drain or toilet.
- EPA solicits any studies or information on the potential for unused pharmaceuticals that are disposed of in non-hazardous-waste landfills to contaminate underground resources of drinking water.



Preliminary Study: Ore Mining and Dressing

- Process Water Discharges: Consistently ranks high in toxic discharges among the industrial categories. This study is reviewing DMR and TRI data and newer treatment technologies (e.g., high density sludge recycling systems).
- Stormwater Discharges: Comments from EPA Region 9 and Clean Water Action assert that State NPDES permit programs are not adequately controlling stormwater discharges from tailings at active mines.
- There are about 400 active ore mines. DMR data is available in PCS and ICIS-NPDES databases for 154 mines. Of these 154 mines, most are regulated by the gold, silver, lead, and zinc subcategory (NV, AZ, CO, MT, AK).
- EPA is soliciting data and information on discharges from this category and available treatment technologies.
- EPA anticipates completing this study for the final 2010 Plan.



Request for Comment: 2010 Annual Review of Cat. Stnds.

- EPA also solicits comment and data on all industrial sectors not currently subject to categorical pretreatment standards for its 2010 review.
- 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.
 - Wastewater characterization data (e.g., wastewater volumes, concentrations of discharged pollutants), current examples of pollution prevention, treatment technologies, and local limits for industries without pretreatment standards.
- EPA solicits comment on data sources and on methods for collecting and aggregating pollutant discharge data collected by pretreatment programs to further inform its future review of industry categories without categorical pretreatment standards.
 - How best to aggregate data collected by Approval Authorities [40 CFR 403.12(i)(1)].



Schedule and Recommendations for 2010 preliminary Plan

Publication of Preliminary 2010 Plan	12/28/2009
Public Comment Period Ends (60 Days)	2/26/2010
Final Agency Review – final decisions on: <ul style="list-style-type: none">- Coalbed Methane Extraction- Healthcare Sector (Unused Pharmaceuticals)- Ore Mining & Dressing	September - October
Publication of Final 2010 Plan	November – December 2010



Please send us your comments!

- If you wish to comment on any portion of the preliminary 2010 Plan, EPA must receive your comments by February 26, 2010. You can submit your comments, referencing Docket ID No. EPA-HQ-OW-2008-0517, to:
 - (1) EPA's online docket using www.regulations.gov ; or
 - (2) By email to "ow-docket@epa.gov"
- More information about the plan is available at:
www.epa.gov/guide/304m



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