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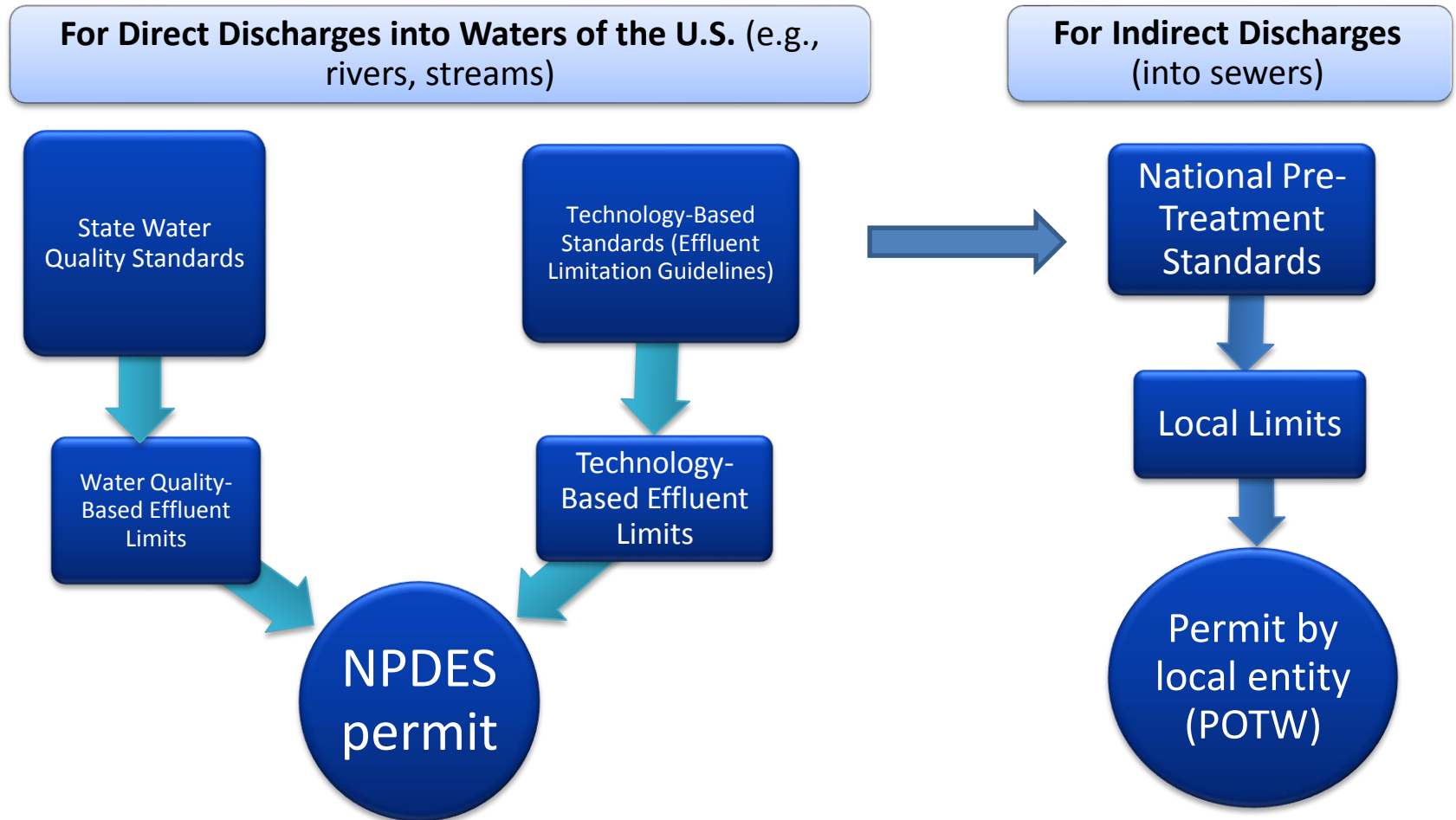
# Effluent Limitations Guidelines and Standards Program



# What are Effluent Guidelines and Standards?

- **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, C&D);**
- **Performance-based limitations and standards (specific technology not required);**
- **Based on demonstrated feasible technology for the industrial category;**
- **Economically Achievable;**
- **Separate requirements for existing and new sources; and**
- **Incorporated into surface water discharge permits (direct dischargers) or into permits established by sewage treatment plants (indirect dischargers).**

# Clean Water Act



# Success of the Effluent Guidelines Program

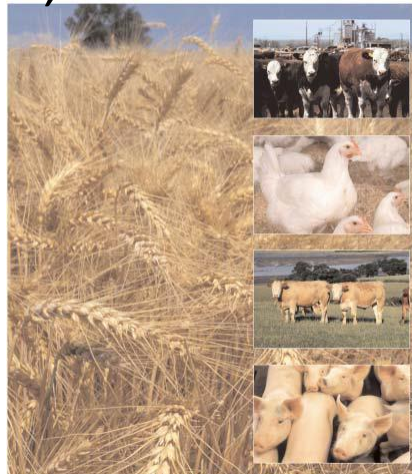
- EPA has published technology-based limits for 57 major industrial categories (with over 450 subcategories) in the thirty-seven year history of the effluent guidelines program (started in the 1972 Clean Water Act).

(<http://www.epa.gov/guide/>)

- These national, technology-based limits are:
  - Incorporated into permits for more than 60,000 facilities;
  - Annually prohibit the discharge of 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.

# Guidelines Recently Completed

- **Airport Deicing:**
  - Issued April 25, 2012
- **Construction and Development**
  - Issued November 23, 2009
- **Concentrated Animal Feeding Operations (CAFOs)**
  - Issued October 31, 2008



# Guidelines Currently Underway

- **Steam Electric Power Generation:**
  - Proposed Rule April 2013
  - Final Rule May 2014
- **Dental Amalgam:**
  - Proposed Rule TBD
  - Final Rule TBD
- **Unconventional Extraction in the Oil and Gas Industry (Shale Gas Extraction and Coal Bed Methane)**
  - Proposed Rule 2014
- **Chlorine and Chlorinated Hydrocarbons (CCH)** TBD

# Steam Electric Power Generation

- On April 19, 2013, EPA signed a proposed regulation that would strengthen the controls on discharges from certain steam electric power plants by revising technology-based effluent limitations guidelines and standards for the steam electric power generating point source category
  - Expect publication in the Federal Register this month
- Steam electric power plants contribute over half of all toxic pollutants discharged to surface waters by all industrial categories currently regulated in the United States under the Clean Water Act
  - Metals, including mercury, arsenic, lead and selenium
  - Nutrients (e.g., nitrogen)
- EPA has proposed four preferred regulatory options that differ in the number of waste streams covered, size of the units controlled and stringency of controls
- For more information on these effluent limitations guidelines and standards:  
<http://water.epa.gov/scitech/wastetech/guide/steam-electric/proposed.cfm>

# Dental Amalgam

- EPA is developing a rulemaking to establish pretreatment standards to reduce mercury discharges from dental facilities
- Dental facilities have been estimated to contribute approximately half of all mercury entering POTWS
- EPA is focusing its technology evaluation on amalgam separators and best management practices
  - Separators currently on the market remove 98.8% or greater of solids as certified to the ISO 11143 standard
    - Considering accommodations for dentists that have already installed separators that may be slightly less effective in response to state concerns that their dentists may be required to replace existing separators
  - Important operation and maintenance practices such as periodic canister changes and visual inspection to ensure proper functioning
- Considering changes to 40 CFR Part 403 to reduce regulatory burden for these discharges only
  - Establish dental industrial user (DIU)
  - Reduce burden to control authority for oversight of DIUs
  - Reduce reporting burden to dentists



# Unconventional Extraction in the Oil and Gas Industry

- In Fall, 2011, EPA announced it was initiating a rulemaking to revise the existing oil and gas ELGs (40 CFR Part 435) to provide additional control of discharges associated with unconventional oil and gas extraction
- Existing rule prohibits pollutant discharges from oil and gas wastewater with certain exceptions
  - Existing rule does not include pretreatment standards for discharges to POTWs
  - Existing rule does not apply to discharges from coalbed methane extraction
- In order to meet the existing ELGs, industry:
  - Re-injects the wastewater into brine wells
  - Re-uses the wastewater typically to hydraulically fracture another well
  - Transports the wastewater to a public or privately owned treatment plant
- Traditional POTWs do not have treatment in place to remove primary pollutants associated with some pollutants in unconventional gas wastewaters (e.g., TDS)
- EPA is also considering whether it is appropriate to initiate a rulemaking to revise the existing centralized waste treatment (CWT) ELGs (40 CFR Part 437) to provide additional control of unconventional oil and gas discharges from privately owned treatment plants

## 304(m) Plan

- The 2010 Final 304m Plan was issued in Oct. 2011 in which we announced
  - The initiation of the shale gas and coalbed methane rulemakings
  - A study of the regenerated cellulose manufacturers
- Preliminary 2012 Plan is expected to be issued soon

## Status of the Health Care Study

- EPA began a study of the health care industry focused on the methods of disposal of unused pharmaceuticals
  - The study produced a draft guidance on the proper disposal of unused pharmaceuticals in the fall of 2010
  - We have withdrawn this guidance and have not finalized it because there are rulemakings underway in EPA's Office of Solid Waste and the Drug Enforcement Administration which will impact what can be done with unused pharmaceuticals
  - Once these regulations are finalized we will revisit the development of this guidance

# Secondary Treatment Update

- EPA's 1977 regulation setting secondary treatment at 30-day averages of 30 mg/L BOD<sub>5</sub> and 30 mg/L TSS has been successful at driving municipal wastewater treatment
- In response to a petition filed by the Natural Resources Defense Council EPA conducted a study on the performance of secondary treatment and posted a report summarizing our findings in February
- EPA's 2013 report found today's activated sludge plants achieve median 30-day averages of 9 mg/L BOD<sub>5</sub> and 7.5 mg/L TSS
- The petition response also denied the request to revise the secondary treatment definition to include nitrogen and phosphorus limits.

# CWA Analytical Methods Update

- EPA established approved methods for NPDES and other compliance monitoring in 40 CFR part 136
- EPA periodically updates the approved methods to reflect advances in technology and provide more choices
- Most recent update finalized in April, 2012
  - EPA postponed decision on an alternative oil and grease method in order to consider and evaluate comments received on a notice of data availability specific to that method
  - EPA issued a notice of final decision on the alternative oil and grease method in March, 2013
    - EPA concluded the alternative method was not demonstrated to produce results comparable to those achieved using the current Part 136 methods in the wide ranges of discharges to which oil and grease limitations may apply
    - EPA encouraged permittees to consider whether or not this alternative method may be an acceptable alternative to the current methods for their specific discharge and to request approval of this alternative method for their specific application if appropriate
- EPA hopes to increase the frequency of updates to more quickly allow for use of new or alternative methods for CWA uses

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**<http://water.epa.gov/scitech/wastetech/guide/index.cfm>**

# Questions?





# Appendix





# Legal Authority

- The Clean Water Act requires EPA to establish technology-based effluent limitations for direct dischargers reflecting two incrementally stringent levels of control
  - First, apply best practicable control technology (BPT) currently available for all pollutants. (301(b)(1)(A)).
  - Second, apply best conventional pollutant control technology (BCT) for conventional pollutants (301(b)(2)(E)) and best available technology economically achievable (BAT) for toxic/priority and non-conventional pollutants. (301(b)(2)(A)).
- Effluent limitations must result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, which shall require the elimination of discharges if the elimination "is technologically and economically achievable for a category or class of point sources". (301(b)(2)(A)).
- For BAT requirements the factors required to be considered under 304(b)(2)(B) are:
  - Age of equipment and facilities;
  - Process employed;
  - Engineering aspects of the application of various types of control techniques;
  - Process changes;
  - Cost of achieving such effluent reduction;
  - Non-water quality environmental impact (including energy requirements); and
  - Such other factors the Administrator deems appropriate.