Dental Amalgam Rule Update

Pacific Northwest Pretreatment Workshop
Vancouver, Washington
September 11, 2017

Jay Pimpare
EPA New England
Regional Pretreatment Coordinator
40 CFR 441
Dental Rule Schedule

- Proposal – Federal Register Notice September 22, 2014
- Final Rule - Administrator Signature – December 15, 2016
- EPA Withdrawal of Rule – January 23, 2017
- Federal Register Notice Final Rule – June 14, 2017
- Effective Date of Rule – July 14, 2017
EPA is taking an important step towards safeguarding Americans from a dangerous neurotoxin. The agency decided to reissue the rule, instead of defending in court the decision to withdraw it. Protecting the public—and not responding to a lawsuit—should have been motivation enough for this sensible action.
Benefits

- EPA expects compliance with this final rule will annually reduce the discharge of mercury by 5.1 tons as well as 5.3 tons of other metals found in waste dental amalgam to POTWs.
What is Amalgam?

Dental amalgam is 49% mercury by weight 35% silver, 9% tin and 6% copper and 1% zinc
Applicability of Significant Industrial User (SIU) Status

- Dental dischargers are **NOT** Significant Industrial Users
- Dental dischargers are **NOT** Categorical Industrial Users
- Dental dischargers are regulated industrial users
Applicability

- DENTISTS, to include institutions, temporary offices, clinics, home offices and dental facilities owned and operated by federal, state or local governments.
Exemptions

- Oral pathology, oral radiology, oral surgery, orthodontics, periodontics or prosthodontics
- **Mobile units**
- Dentists that transfer waste to a Centralized Waste Treatment Facility
- Dentists that discharge to a septic system
Exemptions (cont’d)

Dentists are exempt from further requirements of the rule ONLY if they:

1) Do NOT place or remove amalgam **except in limited emergency or unplanned, unanticipated** circumstances
   
   AND

2) Certify (responsible corporate officer signature) to the Control Authority to that effect that they do not and will not use or remove amalgam
Pretreatment Standards

Incorporation of BMPs:

- Scrap amalgam, including dental amalgam from chair-side traps, screens, vacuum pump filters, dental tools, or collection devices may not be flushed down the drain.

- Chair side traps that may drain to a sewer must not be cleaned with oxidizing cleaners, including, but not limited to: bleach or chlorine containing cleaners that have a pH lower than 6 or greater than 8.
Standards (cont’d)

  - Is certified to meet removal efficiency of at least **95%**
  - Receives all amalgam process wastewater and is INSPECTED in accordance with the manufacturer’s operating manual of the separator. If not functioning properly, must be repaired or replaced within 10 business day after the malfunction is discovered by the dental discharger
  - Is regularly MAINTAINED by replacing the amalgam retaining cartridge, canister or unit collection of retained solids when the manufacturers stated design capacity is reached
What is an Amalgam Separator?

- It is a solids collector!
  - Designed to capture solids so that they can be recycled and disposed of properly.
  - Captures mercury by default, not by design.
  - Commonly designed to capture ~99% of solids by weight not mercury.

- EPA estimates that dental offices that do not currently have separators will incur an approximate average annual cost of $800 per office. Unit price from ~$400 to ~$1000.
Existing vs. New Source

- **Existing Sources**
  - If discharge amalgam process wastewater to a POTW prior to July 14, 2017
  - Must install a separator by July 14, 2020
  - One Time Report is due prior to October 20, 2020 or 90 days after a transfer of ownership.

- **New sources**
  - First discharge to a POTW is after July 14, 2017
  - Report is due within 90 days following introduction of wastewater into a POTW
Standards (cont’d)

- Existing Source (Grandfather clause): If separator is installed PRIOR to the date of publication in the federal register (June 14, 2017), the dentists satisfies the requirements until the separator is replaced or for 10 years (June 14, 2027), whichever is sooner IF they continue to meet the following requirements:
  - Receives all amalgam process wastewater and
  - Is INSPECTED in accordance with manufacturer’s operating manual and
  - If not functioning properly, must be repaired or replaced within 10 business days and
  - Is regularly MAINTAINED by replacing the amalgam retaining cartridge, canister or unit collection of retained solids when the manufacturers stated design capacity is reached
One Time Compliance Report

- Report to include:

Facility name, physical address, mailing address, contact information, name of the operator(s) and owner(s); and a certification statement that the design and operation of the separator meets the requirements in 441.40 or 441.50 and that the facility is employing the BMP’s specified

Report must be kept by dentist for as long as the dentist is in operation and make it available for physical or electronic inspection.
<table>
<thead>
<tr>
<th>Task</th>
<th>Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read Instructions</td>
<td>3</td>
</tr>
<tr>
<td>Dental Practice and Address</td>
<td>1</td>
</tr>
<tr>
<td>Part I: Facility Information</td>
<td>2</td>
</tr>
<tr>
<td>Part II: Amalgam Handling</td>
<td>45</td>
</tr>
<tr>
<td>Obtain Signature</td>
<td>10</td>
</tr>
<tr>
<td>Submit to Control Authority</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
</tr>
</tbody>
</table>
EPA assumed that a dental assistant, at a labor rate of $17.75 per hour (Bureau of Labor Statistics, 2015), would complete the reporting form. EPA also included the cost of postage ($0.49) for submitting the report. Given that, EPA estimated the one-time reporting cost to be $23.
Where Does the Report Go?

To the Control Authority (POTW, State or EPA):

- Any of the approved pretreatment programs (Municipality or POTW) in the Region
- Idaho – Outside of approved programs - directly to EPA (for now)
- Washington, Oregon or Alaska – Outside of approved programs - directly to the STATE
Recordkeeping

Dentists must maintain for three years from the date they are created:

- One Time Compliance Report
- Documentation and results of any inspections
- Document specifying the date of amalgam retaining cartridge replacement
- Records indicating the date of cartridge sent off for proper disposal and the shipping address of the facility to which the cartridge are sent
- Documentation of repair or replacement of the separator
The ADA shares the EPA’s goal of ensuring that dental amalgam waste is captured so that it may be recycled. The ADA originally commented on the draft regulation in February 2015. ADA representatives also met with the EPA and shared views and data as the process evolved. We commend the EPA for its consideration of the ADA’s comments.

We believe this new rule—which is a federal standard—is preferable to a patchwork of rules and regulations across various states and localities.
EPA Amalgam Recycling Rule

NO SEPARATOR OR NEW OFFICE?
MUST INSTALL

All non-exempt practitioners must install a compliant separator by July 14, 2020. Newly opened offices that begin operating on or after July 14, 2017 must be in compliance immediately.

Must file a One-Time Compliance Report within 90 days of installation.

SEPARATOR ALREADY INSTALLED?

Good until June 14, 2027 or unit needs to be replaced, whichever comes first.

Must file a One-Time Compliance Report by October 12, 2020 or 90 days after transfer of ownership.

EXEMPT FROM INSTALLING

1) Dentists exclusively practicing in one of these specialties: oral pathology; oral + maxillofacial surgery; orthodontics; periodontics; prosthodontics.

No further action required.

2) Wastewater discharges from a mobile dental unit or into a private septic system.

No further action required.

3) Dentists who do not place amalgam and do not remove amalgam except in limited emergency or unplanned, unanticipated circumstances, and who certify as such (estimated less than 5%).

Must file a One-Time Compliance Report by October 12, 2020 or 90 days after transfer of ownership.

Installed amalgam separators must comply with the following best management practices:

2. Monitor according to manufacturer’s recommendation.
3. Replace/Repair if malfunctioning according to manufacturer’s instructions within 10 business days of discovering defect.
4. Maintain by replacing amalgam retaining cartridge, separator canister or units as directed by manufacturer or annually, whichever comes first.
5. No use of oxidizing, acidic cleaners when flushing dental unit water lines, cheer-side traps and vacuum lines. Therefore no bleach, chlorine, iodine and peroxide cleaning agents that have a pH of lower than 6 or greater than 8.

Must maintain records on site for 3 years of:
1. Any reports filed
2. A visual inspection log
3. Documentation of any repair or replacement
4. Disposal records
5. Manufacturer’s current operating manual for the device in place

ADA American Dental Association®
Number of Dentists per State in Region 10

- Alaska 311
- Idaho 784
- Oregon 1,934
- Washington 3,558
What do POTWS have to do?

Bare Minimum… but you could do more:

- Identify all dental facilities in your community
- Receive the One Time Certification Statement
- Follow-up with any non compliers in accordance with your Enforcement Response Plan
What Else Do POTWs Have To Do?

**Federal Rule**
Beyond receiving the One Time Report - Nothing

**State and/or Local Level**
You have an obligation to regulate all industrial users!

**Follow your ERP**

**Compliance with NPDES Permit**
Language about identifying all industrial users that have the potential to cause pass through and/or interference

**Identify New Users**
What has already been done in New England and the rest of the Country?
12 States have mandatory program requirements

Connecticut  New York
Maine       Michigan
Massachusetts  Minnesota
Vermont      New Jersey
New Hampshire  Oregon
Rhode Island  Louisiana
Compliance (Installation Only) by New England States Within the First 3 Years of Legislation

- Vermont – 100%
- Maine – 100%
- Massachusetts – 98%
- New Hampshire – 95%
- Rhode Island - >90%
- Connecticut – 84%
Massachusetts POTW Results

- From 2004-2009, mercury levels in sludge at the state’s largest POTW (Massachusetts Water Resource Authority) decreased by about 48%.

- Reduction in environmental releases of mercury of ~136 pounds per year for this POTW alone.
The Narragansett Bay Commission (NBC) has developed the following set of Environmental Best Management Practices (BMPs) for the Management of Waste Dental Amalgam to help the dental community safely and economically reduce the amount of mercury released into the environment.

https://www.narrabay.com/~media/Files/Pretreatment%20Documents/Dental_BMP.ashx
NBC Case Study

- Operates the two largest wastewater treatment plants in Rhode Island receiving wastewater from 10 cities and towns.
- ~1700 permitted users
- 2002: NBC began developing Dental BMP Program
- 2004: NBC began implementation of Dental BMP in cooperation with the Rhode Island Dental Association.
  - Require annual inspection since the implementation of the program
- 2004: 100% compliance with Dental BMP requirements
- 2007: Rhode Island passes state legislation requiring the installation of amalgam separators
NBC Options for Dentists

1. Install and maintain an amalgam separator
   - maintain efficiency of at least 99%
   - demonstrate compliance with the "Mandatory" BMPs.

2. Demonstrate continuous compliance with all applicable NBC discharges limits.
Field's Point & Bucklin Point WWTFs Influent Mercury Loading

Year

pounds/year

2003 2004 2005 2006 2007 2008
EPA/State Activity

In addition to the newly promulgated federal rulemaking oversight, encourage local municipalities to develop a Dental Amalgam Best Management Program (BMP)
Question for YOU…..
What are YOU going to do?
There appears to be a lack of EPA addressing questions to assure National consistency in the implementation and enforcement of the Dental Regulation. EPA stated in the regulations that the only regulated entity with impacts from the regulation were Dental users. Is this the case? It seems that EPA is placing a significant and ill-defined burden on POTWs.
What are POTWs required to do regarding dental dischargers and the industrial waste survey and the continuing event where a new dental discharger comes on-line or there is a transfer of ownership?
Dental dischargers must report (one-time compliance report) to the POTW. Does the POTW have to track these and report the receipt of these reports to EPA or the State? A dental discharger is not a Categorical Industrial Users nor a Significant Industrial User. The regulation does not require such reporting nor does the Part 403 annual report regulations.
Dental users must certify (one-time) they are complying with the Dental Rule. After that one-time certification, what are POTWs required to do on a continuing basis to verify compliance with the Rule, including compliance with BMPs that are required?
Does the POTW need to update its Enforcement Response Plan to include “Dental Discharger” into the ERP?
Does the POTW need to update its legal authority to include any of the new definitions or other items (presuming that the Pretreatment Streamlining BMP language has already been adopted)?
One of the requirements our POTW has added to the annual certification is proof of servicing and/or waste hauling be submitted with the rest of their paperwork to us. What is a reasonable response to a dental discharge that is not in compliance with:

a. Reporting as required;
b. Notifying of a change in ownership;
c. Complying with required BMPs.
Should the POTW be reporting those not in compliance to the State Board of Dentistry since that is a condition of their license to practice under the State (Oregon) senate bill?
40 CFR section 441.30(b)(2) [for existing and new sources] reads:

(2) Dental unit water lines, chair-side traps, and vacuum lines that discharge amalgam process wastewater to a POTW must not be cleaned with oxidizing or acidic cleaners, including but not limited to bleach, chlorine, iodine and peroxide that have a pH lower than 6 or greater than 8.

Question: If the pH is ≥6 or ≤8, the regulations appear to allow such clean agents. Will the POTW be able to enforce the “intent” when the direct regulatory language says something different (conflicts)?
The EPA One-Time Compliance Form says: “Note to dental facilities: Do not fill out and submit this form unless directed to do so by your Control Authority. Please contact your Control Authority to determine what form to use.”. The Dental Regulation does not mandate the Control Authority to solicit and require submittal of the forms. While this may be useful for EPA and states where they are the Control Authority, EPA appears to be adding a POTW requirement through guidance. The Dental Rule requires a Dental User to submit the form regardless if the Control Authority tells them to.
If an existing source Dental User remolds their offices and moves their dental chairs within the same building (no change of ownership), are they now a New Source, if:

a. The Dental User owns the building?

b. The Dental User does not own the building?
My State is authorized to be the Approval Authority for the Pretreatment Program. The State has not updated its incorporation by reference for these new Dental User Effluent Guidelines. Does this affect what the POTW can actually do regarding oversight of Dental User recognizing that the Dental User must self-report? My State has not adopted Pretreatment Streamlining regulations passed in 2005. It has resulted in our City Ordinance being weak regarding BMPs. What do we do regarding the Dental BMPs and compliance of a Dental User with the new regulation?
Does the Dentist have to submit the One Time Compliance Report to the Control Authority?
Are Dentists subject to Categorical Standards?