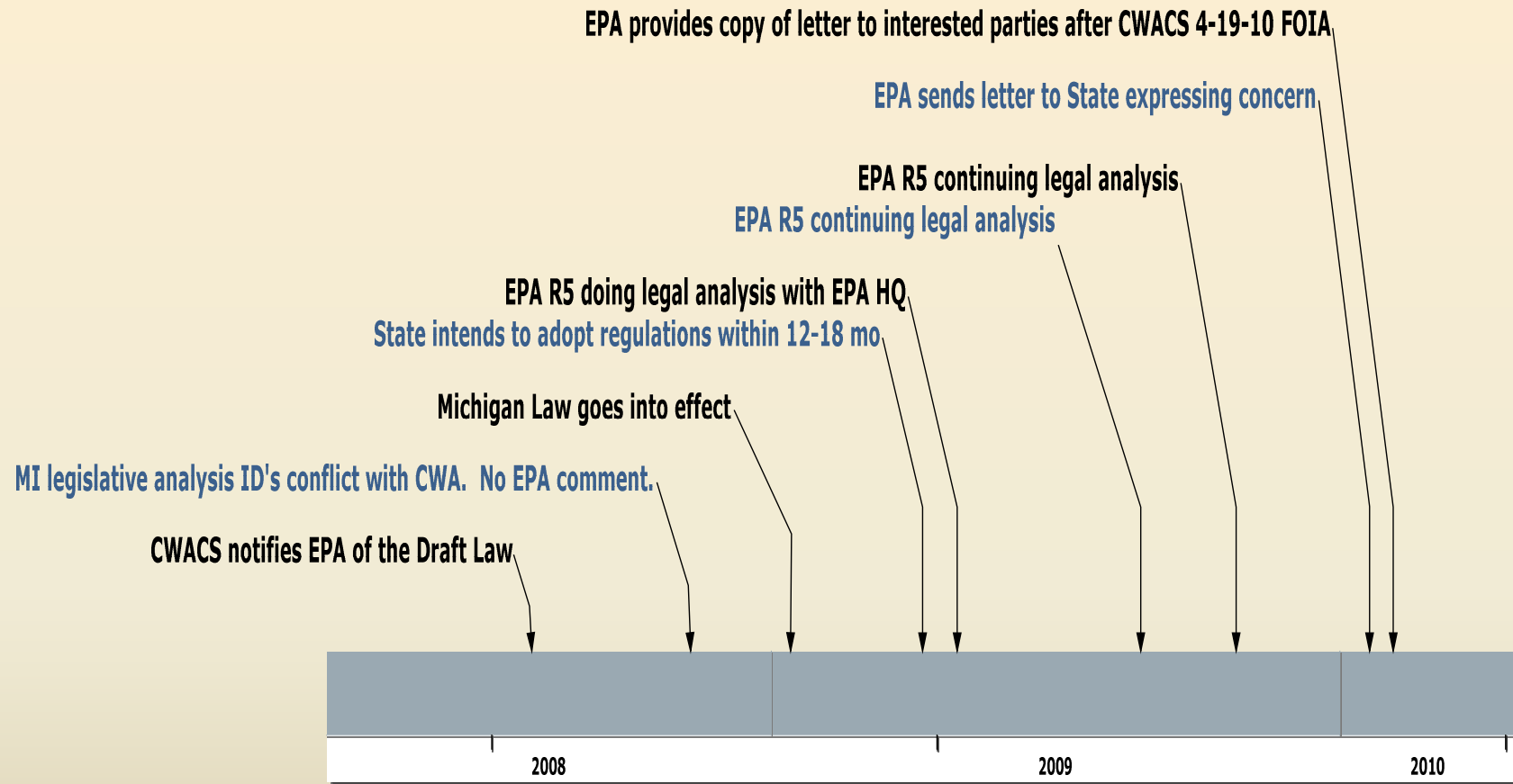


# The Michigan Amalgam Separator Law

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## Timeline for the Michigan Amalgam Separator Law and EPA Action



At least 9 CWACS Pretreatment Newsletters have included information on this Law since 2008.

# What/Who was Behind this Law?

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1. Marie Donigan, Michigan State Representative (Introduced Bill): No Comment
2. Michigan Dental Association: A pretreatment program in the State was requiring dentists to collect their discharge in a tank and treat the collected effluent rather than installing amalgam separators and implementing BMPs. Very expensive.
3. State Board of Health: No Comment
4. EPA Region 5: Probably dentists/Michigan Dental Association.

# What does the Law do?

The Good	The Bad
Requires dentists to install amalgam separators by December 31, 2013.	Preempts and supersedes all existing municipal legal authorities that establish conflicting, different, or additional standards or requirements.
Requires the State to establish BMPs for dentists within 90 days of 1/13/09. The State indicated 12-18 months (personal communication) .	Specifically prohibits municipalities from adopting or enforcing any legal authority that is more stringent than the State Law or any future rules that are promulgated.
Exempts dental schools(?), hospitals, and local health departments and oral surgeons, orthodontists and periodontists that do not apply or remove amalgam.	Prohibits POTWs from issuing a permit that limits the discharge of mercury into wastewater with a limitation greater than that capable of being achieved by installation of amalgam separators and BMPs under the Law.

# Why is the Law a Problem?

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1. Municipalities are barred from implementing or enforcing Pretreatment Standards or Requirements beyond amalgam separators where mercury from dental discharges causes or contributes to Pass Through. These industrial users are exempted from the Clean Water Act.
2. The Law is in direct conflict with the Clean Water Act, the General Pretreatment Regulations, and the MOU for delegation of the NPDES program to the State. This is a modification of the State's NPDES program which has not been submitted to EPA for approval (40 CFR Section 123.62) which includes a public participation component.

# Example: Why the Law is a Problem

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- **Security Sanitation District, CO**

- Timeframe: 2004 to 2010
- POTW: 1.5 mgd
- POTW was under formal enforcement by CDPHE (Colorado) for mercury NPDES violations.
- Mercury Local Limit (SIUs):  $<0.00001$  mg/L (All SIUs in compliance).
- Dentists were identified as the significant source.
- Dentists: 6 – all were required to install amalgam separators and do BMPs
- Mercury effluent violations continued.
- The District decided to require advanced treatment for mercury. SolmeteX designed and provided polishing columns (ion exchange) that would be installed after the amalgam separators (removal of particulate amalgam was not sufficient treatment).
- Advanced treatment was initially required for one dentist closest to POTW headworks. Polishing columns are being required at additional dental facilities.





Columns are installed downstream of amalgam separator.



Pictures provided by Solmetex

# Mercury Treatment

<b>Dental Discharge</b>	<b>POTW Influent Mercury ng/L</b>	<b>NPDES Permit Limit: 11 ng/L  POTW Effluent Mercury ng/L</b>
<b>Amalgam separator only</b>	<b>140</b>  <b>(35-782)</b> <b>n=32</b>	<b>13.2</b>  <b>(0.90-45)</b> <b>n=96</b> <b>(54 violations)</b>
<b>Amalgam separator plus polishing unit on one dentist closest to POTW headworks</b>	<b>87</b>  <b>(54-281)</b> <b>n=19</b>	<b>8.13</b>  <b>(4.60-13.6)</b> <b>n=21</b> <b>(2 violations)</b>
<b>The District is currently generating more mercury data as additional polishing columns are installed.</b>		



## **Conclusions and Observations**

A single dental discharge is capable of causing a mercury NPDES permit violation. This is good science. Scale up to larger POTWs.

Amalgam separators alone were not sufficient to reduce mercury concentrations from a dental facility to allow the POTW to comply with mercury NPDES permit limits.

The Michigan Law would prevent POTWs from requiring additional treatment to achieve compliance with NPDES permit limits and protect water quality standards and the environment.

A mandatory mercury control program consisting of BMPs, amalgam separators and advanced treatment was required.

## **EPA Region 5 Letter (3-4-10) to Michigan Department of Natural Resources and Environment**

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1. EPA concluded the Law limits the authority of local governments in conflict with the CWA and pretreatment requirements.
2. The State has failed to provide notice and submit the Law to EPA as required.

Note: The letter provides no requirement for the State to respond within any specific timeframe, no mention of pretreatment program withdrawal if the State continues to ignore CWA requirements and only offers to discuss this further (after 2 years of discussion).

## Other Precedents?

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If a state or a municipality hears of any other similar laws being contemplated, notify the EPA region ASAP. If anonymity is needed, please contact CWACS (I will always be glad to provide the information).

EPA has allowed many CWA variances for mercury to POTWs in lieu of requiring mandatory mercury control programs to meet NPDES permit limits (e.g. Great Lakes). The variances appear to be granted one step too early.

EPA should define BAT as amalgam separators and where a mercury problem exists, maybe advanced treatment. Municipalities and states need this leadership and support to stand up to political pressure.

EPA has issued its “Guidance for Implementing the Methylmercury Water Quality Criterion” final (April 2010). This document seems to continue the myth that pretreatment programs cannot achieve mercury reductions through prescriptive requirements (it continues the misguided approach of using voluntary programs through MMPs). See past CWACS newsletters on this (and an upcoming special issue).