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ASSESSING EPA'S EFFORTS TO MEASURE AND REDUCE MERCURY POLLUTION FROM DENTIST OFFICES

HEARING

BEFORE THE

SUBCOMMITTEE ON DOMESTIC POLICY

OF THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

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ASSESSING EPA'S EFFORTS TO MEASURE AND REDUCE MERCURY POLLUTION FROM DENTIST OFFICES

WEDNESDAY, MAY 26, 2010

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DOMESTIC POLICY,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:10 p.m. in room 2154, Rayburn House Office Building, the Honorable Dennis J. Kucinich (chairman of the subcommittee) presiding.

Present: Representatives Kucinich, Cummings, Watson, Jordan, and Burton.

Staff present: Jaron R. Bourke, staff director; Charisma Williams, staff assistant; Leneal Scott, IT specialist, full committee; Ashley Callen, minority counsel; and Molly Boyl, minority professional staff member.

Mr. KUCINICH. We are going to call the meeting to order. The Subcommittee on Domestic Policy of the Committee of Oversight and Government Reform will now come to order.

We are joined by our ranking member, Mr. Jordan. Thank you.

Today's hearing is the third held by our subcommittee on the subject of the pollution from mercury used in dentistry. This hearing, the first to be held during the Obama administration, will examine actions undertaken by the EPA and other stakeholders to improve measurement of and limit mercury pollution from dental sources.

Without objection, the Chair and ranking minority member will have 5 minutes to make opening statements, followed by opening statements not to exceed 3 minutes by any other Member who seeks recognition.

Without objection, Members and witnesses may have 5 legislative days to submit a written statement or extraneous materials for the record.

Mercury, especially methylmercury, is a very serious environmental and public health threat. It is persistent and bio-accumulative in nature and can cause birth defects, chronic illnesses, mental disorders, autoimmune disorders, and neurodegenerative diseases in human beings. Young children and unborn fetuses are particularly susceptible to mercury toxicity.

The largest source of mercury air emissions is smoke from coal-burning power plants, about 50 tons per year. The next tier of major mercury air emissions is attributable to incineration of auto-

mobiles and mercury switches and pollution from industrial and commercial boilers. Each of these emissions is about 7½ tons per year.

Today's hearing addresses what scientific evidence suggests may be an unrecognized member of that second tier of major source of mercury pollution. Currently, dentists use more than 20 tons of mercury per year in dental fillings, replacing or repairing current fillings or putting new fillings in. Where does all that waste mercury go? Often it goes down the drain, and if there isn't a major storm causing the sewers to overflow, the waste mercury ends up in a public water treatment works where it settles into biosolid sludge.

Many municipalities burn this sludge in incinerators. The mercury in incinerated sludge is vaporized and goes into the air. Over 1,000 tons of mercury are currently in the teeth of Americans. Millions of Americans opt for cremation at death. When corpses are cremated, the mercury in their teeth goes up in the air.

How much dental mercury ends up in the air? According to official estimates from EPA, the amount of mercury released into the air when sewage sludge is incinerated is small, about 0.6 tons per year. According to EPA, the amount of mercury emitted into the air from cremation is also insignificant, about 0.3 tons per year. But actual mercury emissions from crematoria and sludge incinerators may be more than five times greater than EPA's official estimates.

EPA, itself, admits its estimates of air emissions from sewer sludge incinerators are poor and unreliable. EPA's estimate for emissions from crematoria is also suspect because it is based entirely on tests conducted more than 10 years ago on a single crematorium. No effort was made at the time to determine whether or not the test was conducted as a representative sample.

In spite of these deficiencies, EPA never changed its air emission estimates for sludge incinerators and crematoria, and they are repeated in EPA's written testimony today. But we have found one EPA scientist whose scientific research disputes the official estimates. He will testify today on his own behalf, because his scientific work has never been fully or officially adopted by EPA, but EPA has had plenty of time to consider his findings and revise the official estimates. He has been presenting at conferences since 2005, and in 2007 published his findings that EPA's official estimates significantly under-counted mercury air emissions.

In a previous hearing, this subcommittee received testimony establishing that the true range of mercury air emissions attributable to dental mercury could be as high as seven to nine tons per year. That would put dental mercury emissions on par with major source of mercury air emissions.

If EPA under-estimated the extent of the environmental problem caused by dental mercury, it has also over-estimated the amount of cooperation dentists have voluntarily given toward preventing amalgam from leaving dental offices in wastewater. The technology for capturing mercury is known as the amalgam separator.

In 2008, EPA effectively agreed with comments submitted by the American Dental Association, which asserted, in part, that significant numbers of dentists are voluntarily purchasing amalgam separators and are thereby reducing the amount of mercury their of-

fices use and wash down the drain. Thus, EPA granted an exception for dental offices from mandatory effluent guidelines in 2008; instead, EPA entered into a voluntary memorandum of understanding in the last days of the previous administration to encourage dentists to adapt amalgam separators to prevent the mercury that they use every day from going down the drain to the publicly owned water treatment facilities.

But what happens in practice is far different from the assumptions that justified the exception and a memorandum of understanding. Unfortunately, in State after State dentists have, by and large, been slow to adopt mercury separators unless they were facing mandatory regulations. According to testimony received today from the Environmental Council of the States, a national association of State environmental protection agencies, "in many jurisdictions dental amalgam separator installation rates were low unless there was a mandatory component."

That conclusion is consistent with our staff report published in September 2008 and it is consistent with the sales data trends from the largest manufacturer of mercury separators. Dentists do not respond in large numbers to a purely voluntary program to encourage mercury separator use. Indeed, the American Dental Association promulgated voluntary best management practices for disposing of amalgam waste in 2007, but the majority of dentists who installed separators at this time reside in States or local jurisdictions where separator use is a requirement.

Today's hearing will focus primarily on whether or not the EPA's memorandum of understanding can achieve its purpose in its current form. In preparation for this hearing, my staff has assessed progress made under the memorandum of understanding. What we found is that every milestone established by it has been missed in the nearly 1½ years since it was signed. Serious questions arise about whether the memorandum of understanding has some inherent deficiencies such as: can the parties to the memorandum deliver a high rate of dentist compliance with best management practices for amalgam pollution prevention? Would the MOU's chance of success increase if additional parties were allowed to become signatories? What measure is EPA prepared to take to ensure that the failures to date of the memorandum of understanding practice do not predict the ultimate failure of the EPA's efforts to encourage dentists to remove mercury waste from wastewater before it leaves the dentists' offices?

We hope to get the answers to these and other questions today.

[The prepared statement of Hon. Dennis J. Kucinich follows:]

Opening Statement

Dennis J. Kucinich

Chairman

Domestic Policy Subcommittee

Oversight and Government Reform Committee

"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices"

May 26, 2010

Mercury, especially methylmercury, is a very serious environmental and public health threat. It is persistent and bio-accumulative in nature, and can cause birth defects, chronic illnesses, mental disorders, autoimmune disorders and neurodegenerative diseases in human beings. Young children and unborn fetuses are particularly susceptible to mercury toxicity.

The largest source of mercury air emissions is smoke from coal burning power plants, about 50 tons per year. The next tier of major mercury air emissions is attributable to incineration of automobiles and mercury switches, and pollution from industrial and commercial boilers. Each of these emissions is around 7.5 tons per year. Today's hearing addresses

what scientific evidence suggests may be an unrecognized member of that second tier of major sources of mercury pollution. Currently, dentists use more than 20 tons of mercury per year in dental fillings, replacing or repairing current fillings, or putting new fillings in. Where does all the waste mercury go? Often, it goes down the drain and, if there isn't a major storm causing the sewers to overflow, the waste mercury ends up in public water treatment works, where it settles into biosolid sludge. Many municipalities burn the sludge in incinerators. The mercury in incinerated sludge is vaporized and goes into the air. Over 1000 tons of mercury are currently in the teeth of Americans. Millions of Americans opt for cremation at death. When corpses are cremated, the mercury in their teeth goes up into the air.

How much dental mercury ends up in the air?

According to official estimates from EPA, the amount of mercury released into the air when sewage sludge is incinerated is small: about 0.6 tons per year. According to EPA, the amount of mercury emitted into the air from cremation is also insignificant: about 0.3 tons per year.

But actual mercury air emissions from crematoria and sludge incinerators may be more than five times greater than EPA's official estimates. EPA itself admits its estimates of air emissions from sewer

sludge incinerators are poor and unreliable. EPA's estimate for emissions from crematoria is also suspect because it is based entirely on tests conducted more than 10 years ago on a single crematorium. No effort was made at the time to determine whether or not the test was conducted on a representative sample of crematoria or corpses. In spite of these deficiencies, EPA never changed its air emissions estimates for sludge incinerators and crematoria, and they are repeated in EPA's written testimony today. But we have found one EPA scientist whose scientific research disputes the official estimates. He will testify today on his own behalf because his scientific work has never been officially adopted by EPA. But EPA has had plenty of time to consider his findings and revise the official estimates: he has been presenting at conferences since 2005 and in 2007 published his findings that EPA's official estimates significantly undercounted mercury air emissions. In a previous hearing, this Subcommittee received testimony establishing that the true range of mercury air emissions attributable to dental mercury could be as high as 7 to 9 tons per year. That would put dental mercury emissions on par with major sources of mercury air emissions.

If EPA has underestimated the extent of the environmental problem caused by dental mercury, it has also overestimated the amount of cooperation dentists have voluntarily given toward preventing amalgam from leaving dental offices in the waste water. The technology for

capturing mercury is known as the amalgam separator. In 2008, EPA effectively agreed with comments submitted by the American Dental Association which asserted, in part, that significant numbers of dentists are voluntarily purchasing amalgam separators and thereby reducing the amount of mercury their offices use and wash down the drain. Thus, EPA granted an exemption for dental offices from mandatory effluent guidelines in 2008. Instead, EPA entered into a voluntary Memorandum of Understanding (MOU) in the last days of the previous Administration to encourage dentists to adopt amalgam separators to prevent the mercury that they use every day from going down the drain to the publicly owned water treatment facilities.

But what happens in practice is far different from the assumptions that justified the exemption and the MOU. Unfortunately, in state after state, dentists have by and large been slow to adopt mercury separators, unless they were facing mandatory regulations. According to testimony we will receive today from the Environmental Council of the States, a national association of state environmental protection agencies, "in many jurisdictions, dental amalgam separator installation rates were low unless there was a mandatory component." That conclusion is consistent with our own Staff Report, published in September 2008. And it is consistent with the sales data trends from the largest manufacturer of mercury separators. Dentists do not respond in large numbers to purely

voluntary programs to encourage mercury separator use. Indeed, the American Dental Association promulgated voluntary best management practices for disposing of amalgam waste in 2007. But the majority of dentists who have installed separators at this time reside in states or local jurisdictions where separator use is a requirement.

Today's hearing will focus primarily on whether or not the EPA's Memorandum of Understanding can achieve its purpose in its current form. In preparation for this hearing, my staff has assessed progress made under the MOU. What we have found is that every milestone established by it has been missed in the nearly one and one-half years since it was signed. Serious questions arise about whether the MOU has inherent deficiencies, such as: can the parties to the MOU deliver a high rate of dentist compliance with best management practices for amalgam pollution prevention? Would the MOU's chances of success increase if additional parties were allowed to become signatories? What measures is EPA prepared to take to ensure that the failures to date of the MOU process do not predict the ultimate failure of EPA's efforts to encourage dentists to remove mercury waste from wastewater before it leaves the dentist offices. We hope to get answers to these and other questions today.

Mr. KUCINICH. Thank you for being here.

I recognize Mr. Jordan.

Mr. JORDAN. Thank you, Mr. Chairman, for holding this hearing to examine the Environmental Protection Agency's role in the use and disposal of dental amalgam by the dental industry.

I just have a short statement.

Dental amalgam, or the silver fillings that many of us have, are a compilation of metals, mainly mercury. According to the Centers for Disease Control and Prevention, there is little scientific evidence that dental amalgam poses a health threat; however, I know this is a controversial area.

Today we are focusing on the EPA's role in the disposal of dental amalgam. My understanding is that the industry and the regulators are conversant on this topic and have executed a memorandum of understanding. I am interested in learning how that MOU is working, how it was developed, etc.

I would like to point out that traditionally regulation of the dental industry is a matter reserved to the States, a very important principle I think we need to keep in mind as we think about our Federalist system as we move through this hearing and look at this issue; therefore, I hope to hear more about what States are doing to assist in this concern.

Mr. Chairman, thank you again for putting this together. I appreciate the working relationship that we have, and I want to thank the witnesses who are here today for their participation.

With that, I yield back.

Mr. KUCINICH. Thank you very much, Mr. Jordan.

If there are no additional opening statements, the subcommittee will now receive testimony from the witness before us.

I want to start by introducing Ms. Nancy Stoner. Ms. Stoner joined the U.S. Environmental Protection Agency as the Deputy Assistant Administrator for the Office of Water on February 1st of this year. This is Ms. Stoner's second tenure with EPA, as she directed the Office of Planning and Policy Analysis and the Office of Enforcement and Compliance Assurance from 1997 to 1999. More recently she was co-director of the Natural Resources Defense Council's Water Program. Prior to that, she served as project director and attorney for the Clean Water Project for nearly 10 years.

Deputy Assistant Administrator Stoner, thank you for appearing before the subcommittee today.

In view of the division of responsibilities at EPA, Ms. Stoner is able to speak authoritatively on issues pertaining to water and to the memorandum of understanding on reducing dental amalgam discharges. We will send questions in writing to EPA concerning EPA's efforts to measure mercury air emissions.

Now, Ms. Stoner, as you know, it is the policy of the Committee on Oversight and Government Reform to swear in all witnesses before they testify. I would ask that you rise and raise your right hand.

[Witness sworn.]

Mr. KUCINICH. I thank you. Let the record reflect that the witness has answered in the affirmative.

I ask, Ms. Stoner, that you now give a brief summary of your testimony, and to keep this summary under 5 minutes in duration.

Your entire written statement will be included in the hearing record. I ask that you begin. Thank you.

STATEMENT OF NANCY STONER, DEPUTY ASSISTANT ADMINISTRATOR FOR WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY, OFFICE OF WATER

Ms. STONER. Thank you. Thank you very much, Mr. Chairman, for that lovely introduction. I appreciate the opportunity to testify today before you and Ranking Member Jordan about the Agency's policies on mercury and, in particular, dental amalgam.

Mercury is widespread and persistent in the environment, and under certain conditions can be transformed by microorganisms into methylmercury, the form of mercury of greatest concern in the United States, where exposures occur primarily through fish consumption.

EPA is using its legislative mandates under the Clean Air Act and the Clean Water Act to reduce the U.S. contribution to the worldwide environmental mercury burden. Under the Clean Air Act, EPA has substantially limited U.S. emissions of mercury to the atmosphere through maximum achievable control technology, MACT, and solid waste combustion incineration regulations. As a result, the United States has cut its emissions by more than 90 percent from two of the three largest categories of sources, municipal waste combustion and medical waste incineration, since 1990.

For the other largest category, coal-fired power plants, EPA is now in the process of developing a MACT standard that will address mercury and other hazardous air pollutants.

Just last month, EPA proposed MACT regulations to significantly reduce mercury air emissions from another large source category: industrial, institutional, and commercial boilers. EPA also plans to finalize air emission standards in December of this year to address mercury and other air pollutant emissions from both new and existing sewage sludge incinerators.

EPA is committed to reducing mercury discharges to our Nation's waters. In April EPA published final guidance for implementing the January 2001 ambient methylmercury water quality criterion for the protection of public health. This document will help protect waters and human health by giving guidance to States, territories, and authorized tribes for adopting a fish-tissue-based methylmercury water quality criterion into their water quality standards.

Last fall EPA also initiated effluent guideline rulemaking under the Clean Water Act to address mercury and other wastewater discharges from power plants.

Dental amalgam contributes a small portion of all mercury released globally to the environment from human activities; however, at the local level data indicate that discharges from dental facilities can be a significant contributor to mercury in the environment. Mercury containing amalgam wastes may find their way into the environment when old mercury-containing fillings are drilled out and waste amalgam materials are flushed into chair-side drains entering the sewer system.

Dental facilities may employ a variety of controls and management practices to reduce the discharge of mercury amalgam in

wastewater. Application of these practices, in conjunction with traps and vacuum pump filters, can reduce discharges of mercury containing amalgam and wastewater by more than 75 percent. Amalgam separators remove particulate mercury amalgam and, in combination with traps and vacuum pump filters, achieve better than 95 percent removal.

Some of the waste amalgam particles that reach the sewer system settle out in the sewers and some are carried to sewage treatment plants. The processes used at sewage treatment plants remove 90 to 95 percent of the mercury present in wastewater on average. The mercury removed from wastewater then resides in the biosolids, or sewage sludge, generated during wastewater treatment.

Preventing dental amalgam from getting into the sewer in the first place reduces the amount of dental amalgam, and thus mercury, in wastewater. Amalgam separators are also available at relatively low cost to remove fine particles of waste amalgam. Several studies, including one conducted by EPA's Environmental Technology Verification Program, show separators are highly effective.

Another way to reduce the amount of amalgam entering the sewers is for dentists to use mercury-free fillings. Alternatives to mercury-containing dental amalgams exist. As fewer mercury-containing dental amalgams are used, the amount of mercury in the environment will decline.

Every other year EPA publishes a final Effluent Guidelines Program Plan. The plan addresses both categories of direct and indirect discharges. As part of its 2008 Effluent Guidelines Program Plan, EPA received comments from the American Dental Association and the National Association of Clean Water Agencies on dental amalgam. These comments led to discussions of voluntary efforts and ultimately served as the basis for the memorandum of understanding on reducing dental amalgam signed in December 2008.

The purpose of the agreement between EPA, ADA, and NACWA is to have dental offices follow the ADA's best management practices, which include the installation of an amalgam separator, proper maintenance of such separators, and recycling of all amalgam waste collected in dental offices.

In our 2008 Effluent Guidelines Program Plan, we committed to continue to examine the use of amalgam separators by dentists. As part of our 2010 effluent guidelines planning process, EPA intends to reevaluate whether a rulemaking is appropriate. EPA will be issuing its 2010 Program Plan late this calendar year, and will specifically address this issue.

In closing, let me assure this subcommittee that EPA is committed to reducing mercury-related risks to citizens and the environment. In this regard, EPA and State representatives have scheduled a June 24th meeting to kick off an EPA/State dialog on mercury. The purpose of this dialog is to identify gaps, set priorities, enhance EPA/State collaboration, and identify future areas of work.

Mr. Chairman, this concludes my testimony. I would be happy to answer any questions you or your colleagues may have.

[The prepared statement of Ms. Stoner follows:]

TESTIMONY OF
NANCY STONER
DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON DOMESTIC POLICY
OF THE
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES
May 26, 2010

Good afternoon, Mr. Chairman and Members of the Subcommittee. I am Nancy Stoner, Deputy Assistant Administrator for the Office of Water at the U.S. Environmental Protection Agency (EPA). I appreciate this opportunity to discuss mercury in dental amalgam and actions EPA is taking to address its releases and other releases of mercury.

Introduction

Mercury enters the environment from natural sources (such as volcanoes) and human activity (such as industrial combustion and mining). Mercury is widespread in both the U.S. and the global environment. Human activities have increased the amount of mercury in the atmosphere; in soils and sediments; and in lakes, streams, and oceans (EPA, 1997). Mercury persists in the environment, and, under certain conditions, can be transformed by microorganisms into methylmercury, the form of mercury of greatest concern in the U.S., where exposures occur primarily through fish consumption. This transformation enables mercury to bioaccumulate through the aquatic food chain. The higher concentrations are found at the top of the food chain in larger predatory fish, such as shark and swordfish (EPA, 1997).

Mercury is a serious issue and EPA is using its legislative mandates under the Clean Air Act (CAA), Clean Water Act (CWA), and other laws to reduce the U.S. contribution to the worldwide

environmental mercury burden. People in the U.S. are mainly exposed to methylmercury, an organic compound, when they eat fish and shellfish that contain methylmercury. Fetuses, infants, and children are considered most susceptible to the effects of methylmercury, although effects have been observed in adults as well. Methylmercury exposure in the womb, which can result from a mother's consumption of fish and shellfish that contain methylmercury, can adversely affect a baby's growing brain and nervous system. Impacts on cognitive thinking, memory, attention, language, and fine motor and visual spatial skills have been seen in children exposed to methylmercury in the womb. Recent human biological monitoring by the Centers for Disease Control and Prevention in 1999 and 2000 indicate that the majority of women of childbearing age have blood mercury levels below a level associated with possible health effects. More recent data from the CDC support this general finding.

Under the CAA, EPA has substantially limited U.S. emissions of mercury to the atmosphere through Maximum Achievable Control Technology (MACT) and solid waste combustion/incineration regulations. As a result, the U.S. has cut its emissions by over 90% from two of the three largest categories of sources –municipal waste combustion and medical waste incineration—since 1990. For the other largest category, coal-fired power plants, EPA is now in the process of developing a MACT standard that will address mercury and other hazardous air pollutants from coal- and oil-fired power plants. We plan to issue a proposal under the MACT program no later than March 2011, and have been court-ordered to issue a final regulation no later than November 2011.

Just last month, EPA proposed MACT regulations to significantly reduce mercury air emissions from another large source category: industrial, institutional and commercial boilers. Under this proposal, these new requirements would be effective in early 2014. EPA plans to finalize air emission standards in

December of this year to address mercury and other air pollutant emissions from both new and existing sewage sludge incinerators.

We estimate that about 103 tons per year of mercury are emitted into the air from all U.S. sources (based on the EPA's 2005 National Emissions Inventory). Of these 103 tons, only about 1.5 tons (or 1.5 percent) are related to dental amalgams, with an estimated 0.3 tons emitted from cremation, 0.6 tons from sewage sludge incineration, and 0.6 tons from dental preparations.

EPA understands that you have an interest in our emissions factors program that is used to develop emissions inventories and to help state and federal authorities set permitting requirements and evaluate control strategies for air pollution. EPA's emissions factors program is currently being updated and and our goal is to complete the updated program in late 2011-early 2012. The revised program will provide the tools to allow emissions factors for sources such as wastewater sludge incinerators to be generated from information provided by regulated entities. This information is generally obtained by conducting stack tests using published test methods. As a result, emissions factors are usually developed for sources that emit air pollutants through a stack or vent.

EPA understands that you are also concerned about airborne mercury from combined sewer overflow, septic systems, sludge that is landfilled or spread on land, and waste removed as grit and fines at wastewater treatment plants and disposed of in various ways. Obtaining information on mercury air emissions from these sources will be technically challenging and expensive, and we expect emissions from these sources to be relatively low compared to the other larger sources mentioned before. It is important to note that these larger sources are typically industrial processes in which heat is applied or which process large amounts of mercury-containing materials. The water-related processes you have raised concerns

about generally operate at ambient temperatures and thus are not expected to contribute significantly to airborne mercury emissions.

EPA is also committed to reducing mercury discharges to our nation's waters. The National Pollutant Discharge Elimination System (NPDES) permits under the CWA specify effluent limitations where necessary to protect water quality. For municipal wastewater treatment plants (i.e., publicly owned treatment works (POTWs)) that are subject to these effluent limitations, the National Pretreatment Program requires control of commercial and industrial sources of pollutants before they reach the POTWs. In April, EPA published final guidance for implementing the January 2001 Ambient Methylmercury Water Quality Criterion for the Protection of Public Health. This document will help protect waters and human health by giving guidance to states, territories, and authorized tribes (states and tribes) for adopting a fish tissue-based methylmercury water quality criterion into their water quality standards and implementing the criterion through other water quality programs. Last fall, EPA also initiated effluent guideline rulemaking under the CWA to address mercury and other wastewater discharges from power plants. This regulation will focus largely on discharges associated with coal ash handling operations and wastewater from flue gas desulfurization (FGD) air pollution control systems. The use of wet FGD systems to control sulfur dioxide (SO_2) emissions has increased significantly since the effluent guidelines for this industry were last revised in 1982 and is projected to increase substantially in the next decade as power plants take steps to address federal and state air pollution control requirements. FGD and coal ash wastewater can contain detectable levels of metals, including bioaccumulative pollutants such as mercury, arsenic and selenium.

Mercury in Dental Waste

Dental amalgam contributes a small portion of all mercury released globally to the environment from human activities. However, at the local level, data indicate that discharges from dental facilities can be

a significant contributor to mercury in the environment (de Cerreño, et. Al. 2002). Mercury-containing amalgam wastes may find their way into the environment when old mercury-containing fillings are drilled out and waste amalgam materials are flushed into chair-side drains entering the sewer system. Dental facilities may employ a variety of controls and management practices to reduce the discharge of mercury amalgam in wastewater. Management practices include the use of precapsulated alloys, proper disposal and recycling of captured amalgam, and avoiding the use of oxidizing cleaning agents and heat disinfection for amalgam containing materials.

Application of these practices, in conjunction with traps and vacuum pump filters, can reduce discharges of mercury-containing amalgam in wastewater by over 75 percent (EPA, 2008). Amalgam separators remove particulate mercury amalgam and, in combination with traps and vacuum pump filters, achieve better than 95 percent removal (EPA, 2008).

Some of the waste amalgam particles that reach the sewer system settle out in the sewers, and some are carried to POTWs. The processes used at POTWs remove about 95% of the mercury present in wastewater (AMSA, 2002). The mercury removed from wastewater then resides in the biosolids or sewage sludge generated during wastewater treatment. The currently named National Association of Clean Water Agencies (NACWA) in a March 2002 study reported that mercury from domestic wastewater and municipal treatment plants accounts for less than one percent of U.S. mercury entering the environment (AMSA, 2002).

Three of the more common disposal practices for sewage sludge are application to land, placement on a surface disposal site or into municipal solid waste landfills, and incineration. Numeric standards for mercury and other pollutants in EPA's biosolids regulations are based on conservative multi-pathway exposure and risk assessments. The ceiling concentration for mercury in land applied biosolids is 57 milligrams per kilogram on a dry weight basis (40 CFR 503).

Under 40 CFR Part 503, POTWs are required to demonstrate that the total mercury emissions from all of the sewage sludge incinerators located at their site does not exceed the mercury National Emission Standards for Hazardous Air Pollutants (NESHAP) limit of 3,200 grams/24-hour. In almost all cases, compliance is demonstrated by reviewing available data concerning the mercury concentration in their biosolids and making a worst case assumption of zero percent mercury removal efficiency for their air pollution control devices (i.e., mercury in the biosolids equals mercury emitted to the atmosphere).

In 2009, EPA completed the Targeted National Sewage Sludge Survey (TNSSS). The purpose of the survey was to determine which contaminants were present in sewage sludge and obtain national estimates of the concentrations of selected contaminants (EPA, 2009). The information will help EPA in assessing if exposures may be occurring and whether those levels in sewage sludge may be of concern. EPA has conducted three previous surveys for the purposes of identifying contaminants in sewage sludge. The most recent 2009 survey collected sewage sludge samples, in 2006 and 2007, from 74 randomly selected POTWs in 35 states. For this survey, EPA focused its efforts on POTWs that treat more that one million gallons of wastewater per day (MGD). This group of facilities collectively represents those facilities that treat approximately 94% of the wastewater in the nation. Results of the study found a maximum average mercury concentration of 7.5 milligrams per kilogram of sewage sludge. This falls well below the land application ceiling of 57 milligrams per kilogram of biosolids.

Actions to Reduce Mercury Emissions Associated with Dental Amalgams

Preventing dental amalgam from getting into the sewer in the first place reduces the amount of dental amalgam and, thus, mercury in wastewater. On October 2, 2007, the American Dental Association (ADA) updated its Best Management Practices (BMPs) to endorse the use of amalgam separators by dentists. Amalgam separators are also available at relatively low cost to remove fine particles of waste

amalgam. Several studies, including one conducted by EPA's Environmental Technology Verification Program, show separators are highly effective (EPA, 2002).

Another way to reduce the amount of amalgam entering the sewers is for dentists to use mercury-free fillings. Alternatives to mercury-containing dental amalgams exist. As fewer mercury-containing dental amalgams are used, the amount of mercury in the environment will decline. We encourage dentists to consider non-mercury alternatives to traditional amalgam, however, the choice of dental treatment rests solely with dental professionals and their patients.

For a number of years EPA and its regional offices have been reaching out to state and local governments and dentists about the benefits of using amalgam separators. Moreover, in 2009, EPA and Marquette University's School of Dentistry developed an environmentally responsible dentistry teaching module to educate dental students on proper amalgam waste management. The module aims to raise dental students' awareness of the dental amalgam waste issue and to provide the students with practical steps to reduce the release of amalgam waste to the environment. The module, titled *Dental Amalgam Recycling: Principles, Pathways, and Practices*, highlights four actions to properly manage amalgam waste. These actions are abbreviated as GRIT: "Gray Bag It," "Recycle It," "Install It," and "Teach It." The GRIT steps highlight ADA's best management practices for amalgam waste and encourage dental students to practice environmentally responsible dentistry.

Every other year EPA publishes a final Effluent Guidelines Program Plan as required by Section 304(m) of the CWA. The plan addresses both categories of direct and indirect dischargers (i.e., facilities that discharge to POTWs). EPA publishes a preliminary plan to give the public an opportunity to comment on the plan before it is final. EPA selected the health services industry for study in the 2006 final plan, based in part on public comments concerning the discharge of mercury from dental offices and dental laboratories.

As part of its Preliminary 2008 Effluent Guidelines Program Plan, EPA received comments from the ADA and NACWA on dental amalgam. These comments led to discussions of voluntary efforts and ultimately served as the basis for the Memorandum of Understanding on Reducing Dental Amalgam Discharges (MOU), signed in December 2008.

The purpose of this agreement between EPA, ADA, and NACWA is to have dental offices follow the ADA BMPs, which includes the installation of an amalgam separator, proper maintenance of such separators, and recycling of all amalgam waste collected in dental offices. The Voluntary Dental Amalgam Discharge Reduction Program also calls for the establishment of performance goals for installations of new amalgam separators by dentists, and for the tracking of these goals.

In 2009, as called for in the MOU, ADA conducted both an internet-based and mail survey of dentists in an attempt to determine current amalgam separator use. The internet survey had a response rate of 14.6% with 51% of all respondents indicating they had installed an amalgam separator. In states without laws mandating separator use, amalgam separator use was 36.3%. The mail survey had a response rate similar to the internet survey, with 39.7% of all respondents indicating amalgam separator use. In non-mandatory states, amalgam separator use was 28.1%. Because of the low response rates to these surveys, there is concern that a valid separator baseline from which to measure further progress cannot be established. EPA is now exploring whether sales data from amalgam separator manufacturers is an effective indicator of progress under the MOU. EPA is also exploring goals for this voluntary program and the idea of a recognition program for dentists who voluntarily install amalgam separators. EPA is discussing these issues with both ADA and NACWA, the other signatories to the MOU. Moreover, EPA has been discussing these issues with the Quicksilver Caucus, a coalition of State environmental associations who are concerned with mercury discharges, under an informal agreement to consult with them before any decisions are made under the MOU.

In our 2008 Effluent Guidelines Program Plan, we committed to continue to examine the use of amalgam separators by dentists. As part of our 2010 effluent guidelines planning process, EPA intends to re-evaluate whether a rulemaking is appropriate. EPA will be issuing its 2010 Program Plan late this calendar year and will specifically address this issue.

Conclusion

In closing, let me assure the Subcommittee that EPA is committed to reducing mercury-related risks to citizens and the environment. In this regard, EPA and state representatives have scheduled a June 24 meeting to kick off an EPA/state dialogue on mercury. The purpose of this dialogue is to identify gaps, set priorities, enhance EPA/state collaboration, and identify future areas of work. All media program offices at EPA will be represented at this meeting.

Mr. Chairman, this concludes my testimony. I would be happy to answer any questions you or your colleagues may have.

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Mr. KUCINICH. Thank you very much.

We have been joined by Mr. Burton. Welcome.

Mr. BURTON. Thank you.

Mr. KUCINICH. We are going to move to a question period here of the witness, Ms. Stoner.

At the end of the Bush administration, EPA signed a memorandum of understanding establishing a voluntary framework to encourage dentists to adopt amalgam separators to reduce dental mercury discharge into the environment. Can you tell us how and why that happened?

Ms. STONER. Mr. Chairman, I was actually not involved in it directly, myself.

Mr. KUCINICH. Do you know anything about it?

Ms. STONER. I know that we were approached in the comment process of the effluent guidelines plan with a suggestion that we consider an agreement with ADA to encourage the use of a technology that we thought would be effective in helping to reduce mercury emissions.

Mr. KUCINICH. OK. Well, in their written testimony the State EPAs have testified that they had asked EPA to establish "a nationwide program with a goal of substantially reducing release of mercury to the environment from dental amalgam mercury, and the stakeholders would include but certainly not be limited to the American Dental Association, U.S. EPA, States, publicly operated treatment works, and dental supply manufacturers."

Only 13 days later, the EPA signed a voluntary memorandum of understanding with the American Dental Association and the publicly operated treatment works, but excluded the other suggested parties such as the States. Indeed, the States testify, "neither ECOS nor the Quicksilver Caucus were involved with the development of the memorandum of understanding. ECOS and Quicksilver Caucus members were not aware that the EPA was working to develop such an agreement. States were not asked to be a party to the memorandum of understanding."

So could you tell us why the EPA excluded the States from the memorandum of understanding when enforcement of the Clean Water Act and the Clean Air Act is shared responsibility with State offices?

Ms. STONER. I am less able to tell you what happened in the past, but I can tell you where we are going moving forward.

Mr. KUCINICH. OK.

Ms. STONER. We do have a meeting with the States on June 24th which will look at mercury in a variety of media. It is actually a multi-office EPA meeting. We are looking to work collaboratively with our State partners, as well as the manufacturers and other interested parties in moving forward to build on the MOU.

Mr. KUCINICH. So let me ask you then, as a logical followup to your answer, if you are moving forward, does moving forward mean that you want to incorporate the State EPAs as co-signatories on the agreements?

Ms. STONER. I am not sure that we will actually move forward by revising the MOU. We see the MOU as a base to build on, and so there are other things that we are considering.

Mr. KUCINICH. If you want to build on it, though, wouldn't you want them to sign it?

Ms. STONER. I have not engaged in the discussion with them about it. I don't have a view on that, but I do have a view that we would like to work closely with our State partners. We would like to gather information from them, from the dental amalgam manufacturers, from others to improve the information we have and consider whether additional efforts can be made.

Mr. KUCINICH. OK. Here is the thing: you want to move forward. Fine. I'm with you. Except I need an answer to this. You really have not given me the answer I was hoping for with respect to getting the States right there with you, and I am wondering why the EPA didn't involve the States in the development of the memorandum of understanding or even notify them that a memorandum of understanding was under development.

Ms. STONER. Well, let me suggest on that particular point——

Mr. KUCINICH. That is a fact. I mean, you can check on it, but, look, I don't need you to validate a fact. What I need you to do is to tell me if there is any change in your policies, because Mr. Jordan and I may come to some different conclusions about what States will do, but we both agree that the States ought to be involved here. Am I hearing from you that EPA is taking a different posture with respect to involvement of the States?

Ms. STONER. I would suggest two things. One is that we would be happy to get back to you with a written answer as to what happened in 2008, December 2008.

Mr. KUCINICH. But let's go forward. What are you going to do?

Ms. STONER. Well, we are going to involve the States and we are going to have a discussion about what is the most productive thing for us to work with the States on moving forward, and we are starting to do that next month.

Mr. KUCINICH. When you are crafting that written answer, juxtapose it with what you are going to do differently.

Ms. STONER. I will. Thank you.

Mr. KUCINICH. Mr. Jordan.

Mr. JORDAN. Thank you.

Ms. Stoner, thank you for being here.

You said several times in your response to the chairman about building on the MOU. Tell me, just kind of refresh my memory, how is the MOU working? I mean, we talk about building. What does that mean? What additional costs does that mean? What do you mean by building on it?

Ms. STONER. Well, one thing is setting goals under the MOU. That is one thing that we would like to do is to set and, frankly, achieve some goals in terms of greater use of mercury amalgam separators. That is something we would like to do. We would actually like to get better information than we have right now about the use of amalgam separators. We did get some information. ADA did some surveys. We would like to actually get more information.

Mr. JORDAN. OK.

Ms. STONER. One of the things we would like to do is go to the manufacturers and get information from them and have a better baseline.

Mr. JORDAN. A couple of questions. What do these separators cost, typically?

Ms. STONER. They range in cost. I would say one to two thousand dollars, I would say would be approximately. I could get more specific information on that for you.

Mr. JORDAN. Let's say a dental office has several chairs. I don't know how the technology works, exactly, but do you have to have it at each and every room where the dentists or assistants are doing work on the patient?

Ms. STONER. I believe that is correct, that you need to have it with every chair.

Mr. JORDAN. So it could be several thousand dollars?

Ms. STONER. Could be.

Mr. JORDAN. OK. And how many dentists are currently using this separator, percentage-wise.

Ms. STONER. Let me just clarify on the previous point. You can hook up multiple chairs to one separator, so you do need a separator that hooks up to each chair, but you can attach multiple chairs.

Mr. JORDAN. OK.

Ms. STONER. I am sorry. I forgot the second question.

Mr. JORDAN. How many dentists across the country right now do you think are using this?

Ms. STONER. As I said, we don't have really good information on that. We would like to get better information, including by getting information from the manufacturers.

Mr. JORDAN. Are there States that mandate right now?

Ms. STONER. Yes, there are.

Mr. JORDAN. How many?

Ms. STONER. It is twelve States.

Mr. JORDAN. Twelve States mandate. And are the results such that you see less mercury in the water supplies of those areas than you do in States that don't mandate?

Ms. STONER. You certainly see more use of dental amalgam separators in those States.

Mr. JORDAN. Significant?

Ms. STONER. Yes. The rates are significantly better in States that mandate the use of the separators. That is right. So you would have less mercury going into the sewage treatment plants and you would have less coming out. A lot of the mercury is removed in the sewage treatment plant.

Mr. JORDAN. Refresh my memory. How long has the MOU been in place now? A couple of years?

Ms. STONER. Since December 2008.

Mr. JORDAN. So a couple years. All right. And I assume you and the ADA have undertaken, as part of the memorandum, some kind of educational program? You are telling dentists across the country why this is important, etc.?

Ms. STONER. That is right. For EPA's part, we have done Webinars. We have provided information at conferences. We have information on our Web. We are trying to get the word out.

Mr. JORDAN. OK. Mr. Chairman, I am fine right now. I will yield back.

Mr. KUCINICH. Mr. Burton.

Mr. BURTON. First of all, let me say that Mr. Jordan is one of the finest Congressmen we have, and I really like this guy, but I disagree with him. Mercury is probably one of the most toxic substances on the face of the earth, and it is toxic before it goes into a person's mouth and it is toxic when it comes out, but it is not toxic when it is in their mouth. That is the most ridiculous thing I have ever heard.

I am absolutely convinced, after having hearings for 4 years on this when I was chairman, that mercury is toxic and it should not be put in the human body in any way.

Can I take my 5 minutes after this, Mr. Chairman, so I can go ahead after I finish this, if you don't mind?

Mr. KUCINICH. Without objection.

Mr. BURTON. The thing I want to get across, my grandson got nine shots in 1 day, seven had mercury in them. He became autistic. We used to have one in 10,000 children that are autistic; now it is one in under 100. It is an absolute epidemic, and yet the FDA and CDC and others continue to deny that mercury, a toxic substance put into the human body, is going to affect the neurological system. There is no question that it does. None whatsoever.

I had scientists for 4 years from all over the world come in and testify. And mercury amalgams, when they are taken out of the tooth and flushed down the drain—now my 5 minutes start—they go into our water supply and the sludge and all the other things that you enumerated. That should not happen.

Women who are pregnant are told not to eat fish in certain areas of the country because it has mercury in them. How does it get in there? It is getting in there because we are flushing mercury down the drain. It should not be there.

I know $2,000 is a lot of money, but a dentist can afford it if he is doing his job right and he should have separators. We should not allow mercury into the system whatsoever.

I am not an environmental nut case. I mean, I think the environmental nut cases drive this country and this Congress nuts. But this is one area where I feel very strongly about. Mercury is toxic. It should not be put in a human being in any way at all. And we had scientists come in. I know the ADA doesn't agree with me and they tried to get me defeated in the last election again. That is OK.

But the ADA says that the mercury in an inner substance like a filling doesn't cause any problems, and yet we had scientists from all over the world testify at that table that when you have hot and cold in the mouth it releases a vapor, and the mercury vapor does go into the blood stream and does get into the brain.

We have a huge increase in neurological problems among children that get all these shots. We have an increase in people who have Alzheimer's. I believe that part of that is caused by the mercury that is injected into people in shots and in the mercury amalgams, and it seems to me that we ought to get that out of anything that goes into the human being. Anything. And we certainly shouldn't be flushing it down the drains.

My God, down at Newport News, Virginia, the Navy got so upset about the amount of mercury that was going from military personnel's fillings into the water system that they mandated that they

had huge barrels of it to catch the mercury fillings so it wouldn't contaminate the water supply down there.

There is no question, none, whatsoever. This isn't nut case stuff. There is no question that mercury should not be in the water supply and we should do everything we can to keep it out of there, and that is why the biggest contaminator are the dentists who are flushing this stuff down the drains, and so we need to have these separators. That is important.

The other thing is, we need to inform people who are going into a dentist's office or who are getting a shot or whatever it is that there is mercury in that substance. If you are going in to get a shot and you know there is mercury in that shot, like thimerosal, which is a preservative in shots that we get, and if you get a shot where they have the rubber top on it and you stick the needle in, it has thimerosal in it, and thimerosal has mercury in it. Over a long period of time, mercury accumulates in the brain. If you keep getting these shots over and over, it is going to have some kind of an adverse impact in most people, or in many people, so it shouldn't be in there.

But if it is there, and if it is in amalgams, the people have a right to know. It is their life. Now, we are telling people that eat fish, Be careful, because there is mercury in that fish, and if you are pregnant it might cause a neurological problem in your baby so don't eat those fish if they have mercury in them, and yet we are putting mercury into the water supply, we are putting it into our mouths, we are putting it into our shots, and the FDA and HHS aren't doing anything about it.

Like I said, I don't like the Government to stick its nose into States' rights. I don't like the Federal Government taking over anything. But this is one area where the entire society is at risk as long as mercury is being injected into human beings. I feel so strongly about it.

Do you know what it is like to have a 2-year old child getting nine shots in 1 day, a perfect child, starting to talk, walk, and everything else, and all of the sudden he is banging his head against the wall running around? And I talked to people at that table who are losing their homes, going bankrupt because they have kids who have autism and they can't afford to take care of them, and yet the fund that we have created to take care of these people that are contaminated by this isn't doing a thing to solve the problem.

So you can tell I am pretty upset about it, because I have watched it. I have watched thousands of mothers come out here and show us their kids who are mentally retarded because of this. I have talked to people who can't eat fish when they are pregnant because they are afraid their child will be hurt by the mercury in the drinking water. And yet we continue to pour it into our system, pour it into our drinking water, and the Federal Government doesn't do anything about it.

And yet I could read to you what the FDA says. For the first time ever, the FDA publicly admitted that dental amalgam contains highly toxic mercury and they did put warnings on the labels. So if they put warnings on the labels, why don't they put it in the dentist's office so people know when they go in there? Why don't

they tell us. That is not that expensive, a little cardboard saying there is mercury in these things.

And so I think the FDI challenged the FDA after me being chairman here for 6 years and being on this committee now for over 25 years, tell the people. Let the people know the facts and the country will be safe. I think somebody important said that. I think it was Abraham Lincoln. Let the people know the facts and the country will be saved, and, not only that, their lives might be saved.

[The prepared statement of Hon. Dan Burton follows:]

Opening Statement
Representative Dan Burton
Subcommittee on Domestic Policy
Committee on Oversight and Government Reform
Topic: Environmental Effects of Disposal of Dental Mercury
May 26, 2010

I would like to thank Chairman Kucinich for holding this hearing today. As chairman of the then-House Committee on Government Reform and later chairman of that Committee's Subcommittee on Human Rights and Wellness, I led a 2-year-long investigation into the dangers of using highly toxic mercury in everyday medical and dental procedures. In fact, in 2003, I chaired a hearing very similar to the hearing we're having today entitled: "The Environmental Impact of Mercury Containing Dental Amalgams;" which examined the connection between amalgam discharges from dental offices and mercury load in municipal wastewater treatment plants.

Despite my efforts, and now three years of oversight from Chairman Kucinich, I'm sorry to say that it doesn't appear to me at least that we've made any serious progress in addressing this issue over the last seven years. Mercury

amalgam fillings continue to be routinely used in human dentistry and amalgam scraps continue to flow into our wastewater treatment plants.

Dental amalgam is the largest single source of mercury flowing into wastewater treatment plants. As an element, mercury does not ever change; so the wastewater treatment plants are not able to simply treat it. It must be completely removed from the wastewater system and stream. If the mercury is not removed, heavy particles of mercury settle into treatment plant sludge. Eventually that sludge either gets incinerated; releasing mercury directly into the atmosphere, or it gets spread out on agricultural fields as fertilizer. Over time, bacteria help recirculate that mercury back into the environment. Either way, this mercury inevitably ends up in the food we eat, the water we drink, and the air we breathe.

Dentists cannot honestly say that they are not aware of the dangers of mercury. In fact, dentists take routine precautions against this dangerous substance. Mercury-containing amalgam scraps

and extracted teeth with amalgam fillings according to protocol must be stored in sealed jars under liquid until a special hazardous materials recycler picks them up for special disposal.

I am pleased that the American Dental Association amended its Best Management Practices to endorse amalgam separators because it represents a clear and unambiguous statement by the ADA that dental mercury is dangerous.

My question continues to be, if dentists are aware of the dangers of mercury, why is this toxic material still being used?

The answer is that the dental establishment continues to hold to the scientific fiction that a material that is hazardous before it goes into your mouth and hazardous after it comes out of your mouth is somehow perfectly safe while it is in your mouth. This disconnect in logic simply does not make sense and it flies in the face of a growing body of credible scientific evidence.

Even the U.S. Food and Drug Administration can no longer ignore the science. After dodging its duty to classify mercury fillings for decades, the U.S. Food and Drug Administration last year – prompted by a lawsuit from several consumer groups – finally codified the safety of dental mercury. For the first time ever, FDA publicly admitted that dental amalgam contains highly-toxic mercury, and therefore requires a variety of warnings on the product label. That is clearly a significant improvement over FDA's former position that mercury amalgams are 100-percent safe. Unfortunately, and inexplicably new warning requirements have nothing to do with patient safety, as FDA still does not require dentists to warn **patients** in any way about the harmful neurotoxins in dental amalgam fillings.

Considering the fact that, in 2006, the FDA's own panel of outside experts concluded that it is 'not reasonable' for the FDA to have the position that mercury amalgam fillings are safe; how can the FDA not insist that dentists warn patients about the dangers?

I don't know; but Representative Watson, Chairman Kucinich and I – along with 17 other Members of Congress have introduced legislation to correct this mistake. The "Consumers Have Options for Molar Protection or 'CHOMP' Act of 2009" (H.R. 4615) that Americans have the information they need in order to make an informed decision about material goes into their mouths.

The bill responds to a 2006 Zogby poll that showed 76% of Americans could not identify the major component of "silver fillings." When told the major component was mercury, over 90% of the poll respondents said they had a right to know.

This bill does two things; first, the bill requires manufacturers to place a warning label on mercury amalgams. Second, the bill champions the consumer's right to know by requiring dentists to present patients with a fact sheet detailing the **pros and cons** of each filling material.

The bill does not dispute the FDA's official view on mercury amalgams. In fact, the bill requires the fact sheet be prepared by the Food and Drug Administration.

Nor does the bill restrict the ability of a dentist to use mercury amalgam. H.R. 4615 simply calls for the dissemination of information to dental patients. The public should be provided the basic information to ask their dentist relevant questions and participate in decisions about *their* dental treatment. Consumers have a right to know this and we feel that dentists have the duty to inform their patients.

I commend my colleague Representative Watson on her years of work on this issue going back to her days in the California Legislature. When she retires at the end of this Congress the American people will lose a powerful advocate for informed consent here in Washington.

Mr. Chairman, in closing let me say that mercury is one of the most toxic elements found in nature, second only to radioactive materials.

While some minerals are beneficial to human life, mercury is most assuredly not, because the human body was not designed or ever meant to ingest mercury. Consequently, the human body has no effective filter or elimination system for it. The end result is that much of the ingested mercury accumulates in the body's tissue, including the nervous system and vital organs, such as the brain.

This is a very serious matter. It's been seven years since Congress first discussed this problem and next to nothing, in my opinion, has really been done by the dental community to solve it.

We cannot afford to wait another seven years for them to act.

It's time to get mercury out of the dentist's office, out of the wastewater system and out of the environment.

I thank you again for calling this hearing, and I look forward to hearing the testimony of all of our witnesses.

Mr. KUCINICH. Thank you, Mr. Burton.

Mr. BURTON. Thank you, sir.

Mr. KUCINICH. The Chair recognizes Mr. Cummings.

Mr. CUMMINGS. Good afternoon.

Ms. STONER. Good afternoon.

Mr. CUMMINGS. I was listening to my friend, Mr. Burton, and on the one hand he says Government needs to stay out of the business, to keep a certain distance; on the other hand, he says we do need to have some regulation here, and I agree that we do. That leads me to these questions.

As part of the 2002 effluent guidelines planning process, EPA is committed to examining the use of amalgam separators by dentists; is that right?

Ms. STONER. Yes, sir.

Mr. CUMMINGS. In the 2008 guidelines for new and existing industrial pollution discharges into surface waters into publicly owned treatment works, the EPA decided to exclude dental offices from the scope of the guidelines; is that correct?

Ms. STONER. Well, EPA decided not to move forward with the effluent guidelines at that time. Yes, Congressman.

Mr. CUMMINGS. And so, in other words, dental offices were excluded? I mean, I am not trying to put words in your mouth. I am going somewhere, but I want to make sure you are going with me.

Ms. STONER. The only thing I am trying to say is that a permanent exemption, nothing like that was done. What we decided was not to move forwards with a rulemaking at that time, and that is the issue that we are examining again this year in our Effluent Guidelines Plan.

Mr. CUMMINGS. So what would be the criterion needed for dental offices to be included, say, in the 2010 guidelines?

Ms. STONER. Well, I think what we would do is look at the various different sectors that need either new or revised technology-based standards and compare this to others in terms of the importance of the agency moving forward with a technology-based standard.

Mr. CUMMINGS. And what would be the methodology for getting there? I mean, in lay terms.

Ms. STONER. Well, I think that what the Agency does is look at the size of the problem. Obviously, we have been talking about methylmercury and the health issues associated with that, which are very significant and serious. We have been looking at the contribution that comes from this source versus other sources.

We would be looking at, for example, how the problem is developing over time, what the trend analysis is in terms of either the substitutes for dental amalgam or the use of separators. We would be figuring out whether this is the best thing to put the Agency's resources on in terms of protecting human health and the environment. That is the decision that we need to make in that plan.

Mr. CUMMINGS. So right now I guess you are telling me you don't have enough information? Is that it, in spite of what Mr. Burton just said?

Ms. STONER. Well, we have done some initial work on it, but I would say that we need to gather additional information. That is right, Congressman.

Mr. CUMMINGS. And, assuming that what Mr. Burton said was true, let's just assume that hypothetical, do you think dental offices would be excluded or included at that juncture, assuming what he just said is true?

Ms. STONER. Again, I think it depends on how many effluent guidelines we are able to do and how this compares to other risks.

Mr. CUMMINGS. Now, in implementing the 2001 guidance; are you familiar with that?

Ms. STONER. Yes, sir, I am.

Mr. CUMMINGS. Who had input into that document, and what do you hope it will accomplish?

Ms. STONER. Let me check on the first question.

Mr. CUMMINGS. OK.

Ms. STONER. [Consults with audience member.] That document, it is guidance for how to use the water quality criteria that we developed for methylmercury. It helps States to set standards, water quality standards for methylmercury to protect the public. It did go through a public comment process, so we got comments from a wide range of stakeholders on that document.

That is what it is for, so what we are trying to do through that document is to help States through the technical issues associated with setting a water quality standard. They can then use those standards also to set limits for sewage treatment plants, and the sewage treatment plants can use that to set limits for the dentists that discharge into those sewage treatment plants. So it is another method under the Clean Water Act to protect the public by reducing pollution.

Mr. CUMMINGS. I see my time is up. Thank you, Mr. Chairman.

Mr. KUCINICH. I thank the gentleman. We are going to go to a second round of questions to Ms. Stoner.

Prior to signing the memorandum of understanding with the American Dental Association and the Organization for Publicly Owned Water Treatment Facilities, the EPA made a finding that dentists were voluntarily moving toward adopting amalgam separators. On the basis of that finding, EPA exempted dentists' offices from mandatory effluent guidelines. I would like to ask about the EPA's basis for excluding dentists' offices from its mandatory effluent guidelines.

The ADA submitted a letter to the water docket in 2007—that is comments on the EPA's study of a pre-treatment requirement for dental offices—which made eight arguments in favor of excluding dentists' offices from mandatory requirements. In essence, that letter states, as ADA's testimony today repeats, "dentists can and will act on their own."

Did EPA take into account contrary evidence that dentists are slow to voluntarily act on their own? For instance, did EPA consider the Quicksilver Caucus's April 2008 report on mercury separator usage, which noted that nearly all jurisdictions that started with purely voluntary regulations ended with mandatory regulations because the voluntary ones don't work? That finding was similar to the conclusion of a report published by this subcommittee in September 2008. So what do you say to that?

Ms. STONER. I wasn't involved in that particular decision, but——

Mr. KUCINICH. But what do you think?

Ms. STONER. I am confident that the Agency is aware that mandatory requirements—as a matter of fact, the information is available today that shows that in States where there are mandatory requirements there is more use of amalgam separators than there is in States where the programs are voluntary, and that is consistent with the Agency's experience in a lot of different areas. You will have more widespread compliance if you actually have a mandate. I think that is pretty well demonstrated.

Mr. KUCINICH. Well, it might be pretty well demonstrated, but that is not where the EPA was, because they exempted dentists' offices from mandatory effluent programs, so, using your logic, of course mandatory, but that is not what EPA did.

Ms. STONER. EPA did not grant a permanent exemption to——

Mr. KUCINICH. What was their basis for excluding dentists' offices from mandatory effluent guidelines in the first place?

Ms. STONER. I would prefer to get back to you in writing on that.

Mr. KUCINICH. OK. That would be fine.

Ms. STONER. Because it was a decision I was not involved in.

Mr. KUCINICH. I will look forward to reading it.

[The information referred to follows:]

EDOLPHUS TOWNS, NEW YORK
CHAIRMAN

DARRELL E. ISSA, CALIFORNIA
RANKING MINORITY MEMBER

ONE HUNDRED ELEVENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

2157 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6143

Majority (202) 225-5051
Minority (202) 225-5074

May 28, 2010

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, DC 20460

Dear Administrator Jackson:

In connection with the May 26, 2010 hearing of the Domestic Policy Subcommittee, entitled, "***Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices,***" I hereby request that you provide answers in writing to the following Questions for the Record.

1. In their written testimony, the Environmental Council of the States (ECOS), a national association of state environmental protection agencies, testified that they had asked EPA to establish a "nationwide program with a goal of substantially reducing releases of mercury to the environment from dental amalgam mercury. The stakeholders would include but certainly would not be limited to the American Dental Association, USEPA, states, publicly operated treatment works and dental supply manufacturers."

   Only 13 days later, EPA signed a voluntary Memorandum of Understanding (MOU) with the ADA and the publicly operated treatment works, but excluded the states and other suggested parties. Indeed, ECOS testified, "Neither ECOS nor the Quicksilver Caucus were involved with development of the MOU. ECOS and Quicksilver Caucus members were not aware that EPA was working to develop such an agreement. States were not asked to be a party to the MOU."

   a. Why did EPA exclude the states from the MOU, when enforcement of the Clean Water Act and Clean Air Act is a shared responsibility with state EPA offices?
   b. Why didn't EPA involve the states in the development of the MOU, or even notify them that an MOU was under development?

2. The Environmental Council of the States also testified that after the MOU was signed, they petitioned EPA to participate, but were turned down on. ECOS says, "On January 22, 2009, QSC again requested that states be included as parties to the MOU because states are co-regulators with EPA for implementing the Clean Water Act...EPA replied that they would take QSC's request to the other MOU parties and get back to QSC with a reply." But the reply was NO.

    a. Is it true that EPA raised the question with the other signatories, as you had promised the States? Please describe the circumstances.
    b. Did EPA oppose expanding the membership of the MOU?
    c. If not, which parties blocked expanding membership of the MOU?

3. The parties to the MOU, including ADA, have responsibility, to "promote compliance with the ADA BMPs by dentists and other members of the dental team... [to] continue and expand its programs to raise awareness and provide training, outreach and implementation resources to dentists and other members of the dental team."

    a. When my staff spoke with a top official at ADA about steps ADA is taking to measure the effectiveness of its outreach campaign, such as tracking if dentists are viewing the brochure it produced, we learned that ADA is NOT even tracking that. How can ADA optimize the efficacy of its efforts to promote compliance with its BMPs if it does not track dentist compliance with them or even whether they look at its brochure?
    b. We have also learned that ADA recently held a conference in Chicago for Illinois dentists on the topic of limiting mercury pollution from dental offices. Of the over 8,500 dentists in Illinois, only 21 came to the conference. How can the purposes of the MOU, namely to obtain a high degree of compliance by dentists, be achieved if outreach efforts, such as the one recently in Chicago, attract so little participation by dentists?
    c. At the current time, the MOU is silent on specific requirements on parties to monitor and evaluate the efficacy of their outreach and compliance achievement efforts. Given the abovementioned observations, what steps will EPA demand ADA to take to monitor and evaluate the efficacy of their outreach and compliance efforts?

4. In your testimony, you acknowledged that EPA was aware that mandatory regulations are considerably more successful in achieving dentist compliance with amalgam separator best management practices. Indeed, a good deal of research has been available to EPA on the topic, including an April 2008 report from the Quicksilver Caucus and a September 2008 report from the Majority Staff of the Domestic Policy Subcommittee. Given the demonstrated importance of a realistic prospect for mandatory requirements for obtaining dentist adoption of amalgam separators, I'm wondering what procedure EPA would follow to reconsider its exemption of dentist offices from effluent guidelines.

a. If EPA were to re-evaluate its 2008 decision to exempt dentist offices from the 2008 effluent guidelines, what would be EPA's process for doing so?
b. Has EPA *already* made *any* determinations that would make a re-evaluation of the 2008 exemption *unlikely*?
c. Is EPA biased toward maintaining the dentist office exemption in the 2010 Guidelines?
d. Does EPA intend to rescind the dentist office exception *unless* you see verifiable compliance with the MOU's goals in 2010 and 2011?

5. In EPA's April 5 letter to me, you characterized EPA's development of a new process to establish emissions factors in the following way:

> "EPA is developing a new emissions factors program designed to produce high quality emissions factors by the end of next year. Once our new emissions factors development process is complete, any emissions sources (including wastewater sludge incineration and crematoria) that provide electronic source test plans to our Internet-based database will enable us to generate emissions factors for all pollutants, including mercury, using the most current data available."

In our hearing, we heard from an EPA scientist and from a private sector expert on cremation that there were a number of potential complications that could stand in the way of accurate new emissions factors, especially for mercury from crematoria. These complications include:

1. difficulty in measuring very small concentrations of mercury in air releases from crematory stacks;
2. difficulty in ensuring that air samples are taken during the cremations of corpses that are representative in terms of the number of amalgam fillings present;
3. difficulty in capturing all of the emissions, including emissions that do not exit the stack but rather leak through other parts of the crematorium or that are emitted gradually after the cremation is complete;
4. underreliance on other available evidence that does not consist of actual emissions, such as estimates of mercury input into crematoria based on actual counts of mercury fillings in corpses.

In order to get an early assessment of how EPA will confront these issues, please inform the Subcommittee:

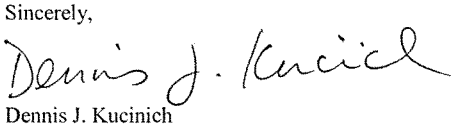
a. How will the new emissions factors program take into account each of the above listed complications?
b. Will EPA employ a mass balance approach to validate measurements input into the Internet-based database?

c. How will EPA get access to unregulated entities, such as crematoria? In which states does EPA believe it can currently obtain access to measurements of the air emissions from crematoria?

The Oversight and Government Reform Committee is the principal oversight committee in the House of Representatives and has broad oversight jurisdiction as set forth in House Rule X. An attachment to this letter provides information on how to respond to the Subcommittee's request.

We request that you provide these documents as soon as possible, but in no case later than **5:00 p.m. on Friday, June 11, 2010**. If you have any questions regarding this request, please contact Jaron Bourke, Staff Director, at (202) 225-6427.

Sincerely,



Dennis J. Kucinich
Chairman
Domestic Policy Subcommittee

cc: Jim Jordan
Ranking Minority Member

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Domestic Policy Subcommittee Document Request Instruction Sheet

In responding to the document request from the Domestic Policy Subcommittee, Committee on Oversight and Government Reform, please apply the instructions and definitions set forth below.

Instructions

1. In complying with the request, you should produce all responsive documents in your possession, custody, or control.

2. Documents responsive to the request should not be destroyed, modified, removed, transferred, or otherwise made inaccessible to the Subcommittee.

3. In the event that any entity, organization, or individual denoted in the request has been, or is currently, known by any other name than that herein denoted, the request should be read also to include them under that alternative identification.

4. Each document produced should be produced in a form that renders the document capable of being copied.

5. When you produce documents, you should identify the paragraph or clause in the Subcommittee's request to which the documents respond.

6. Documents produced in response to this request should be produced together with copies of file labels, dividers, or identifying markers with which they were associated when this request was issued. To the extent that documents were not stored with file labels, dividers, or identifying markers, they should be organized into separate folders by subject matter prior to production.

7. Each folder and box should be numbered, and a description of the contents of each folder and box, including the paragraph or clause of the request to which the documents are responsive, should be provided in an accompanying index.

8. It is not a proper basis to refuse to produce a document that any other person or entity also possesses a nonidentical or identical copy of the same document.

9. If any of the requested information is available in machine-readable or electronic form (such as on a computer server, hard drive, CD, DVD, memory stick, or computer backup tape), you should consult with Subcommittee staff to determine the appropriate format in which to produce the information.

10. The Committee accepts electronic documents in lieu of paper productions. Documents produced in electronic format should be organized, identified, and indexed electronically in a manner comparable to the organizational structure called for in (6) and (7) above. Electronic document productions should be prepared according to the following standards:

    (a) The production should consist of single page TIF files accompanied by a Concordance-format load file, an Opticon reference file, and a file defining the fields and character lengths of the load file.

    (b) Document numbers in the load file should match document Bates numbers and TIF file names.

    (c) If the production is completed through a series of multiple partial productions, field names and file order in all load files should match.

11. In the event that a responsive document is withheld on any basis, you should provide the following information concerning the document: (a) the reason the document is not being produced; (b) the type of document; (c) the general subject matter; (d) the date, author, and addressee; and (e) the relationship of the author and addressee to each other.

12. If any document responsive to this request was, but no longer is, in your possession, custody, or control, you should identify the document (stating its date, author, subject and recipients) and explain the circumstances by which the document ceased to be in your possession, custody, or control.

13. If a date or other descriptive detail set forth in this request referring to a document is inaccurate, but the actual date or other descriptive detail is known to you or is otherwise apparent from the context of the request, you should produce all documents which would be responsive as if the date or other descriptive detail were correct.

14. This request is continuing in nature and applies to any newly discovered document. Any document not produced because it has not been located or discovered by the return date should be produced immediately upon location or discovery subsequent thereto.

15. All documents should be bates-stamped sequentially and produced sequentially. In the cover letter, you should include a total page count for the entire production, including both hard copy and electronic documents.

16. For paper productions, four sets of documents should be delivered: two sets to the majority staff and two sets to the minority staff. For electronic productions, one dataset to the majority staff and one dataset to minority staff are sufficient. Productions should be delivered to the majority staff in B-349B

Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building. You should consult with Subcommittee staff regarding the method of delivery prior to sending any materials.

17. Upon completion of the document production, you should submit a written certification, signed by you or your counsel, stating that: (1) a diligent search has been completed of all documents in your possession, custody, or control which reasonably could contain responsive documents; and (2) all documents located during the search that are responsive have been produced to the Subcommittee or identified in a privilege log provided to the Subcommittee.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 16 2010

OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable Dennis J. Kucinich
Chairman
Domestic Policy Subcommittee
Committee on Oversight and Government Reform
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Thank you for your letter of May 28, 2010, addressed to Administrator Lisa Jackson, regarding the Domestic Policy Subcommittee's hearings, "Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices." It was a pleasure for EPA to testify at the hearing on May 26, 2010. Your letter asked a series of follow-up questions, which are responded to below.

I hope this information is helpful. Again, thank you for your letter. If you have further questions, please contact me or your staff may call Pamela Janifer in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-6969.

Sincerely,

Arvin Ganesan
Deputy Associate Administrator
for Congressional Affairs

EPA Responses to Questions for the Record from
hearing entitled "Assessing EPA's Efforts to Measure and Reduce
Mercury Pollution from Dentist Offices"
Subcommittee on Domestic Policy of the Committee on Oversight and Government Reform
Unites States House of Representatives
May 26, 2010

Question 1. In their written testimony, the Environmental Council of the States (ECOS), a national association of state environmental protection agencies, testified that they had asked EPA to establish a "nationwide program with a goal of substantially reducing releases of mercury to the environment from dental amalgam mercury. The stakeholders would include but certainly would not be limited to the American Dental Association, USEPA, states, publicly operated treatment works and dental supply manufacturers."

Only 13 days later, EPA signed a voluntary Memorandum of Understanding (MOU) with the ADA and the publicly operated treatment works, but excluded the states and other suggested parties. Indeed, ECOS testified, "Neither ECOS nor the Quicksilver Caucus were involved with the development of the MOU. ECOS and Quicksilver Caucus members were not aware that EPA was working to develop such an agreement. States were not asked to be a party to the MOU."

a. Why did EPA exclude the states from the MOU, when enforcement of the Clean Water Act and Clean Air Act is a shared responsibility with state EPA offices?

b. Why didn't EPA involve the states in development of the MOU, or even notify them that an MOU was under development?

Response:

EPA notified the public of its intent to study the health services industry. The health services industry study was focused on the disposal of unused pharmaceuticals by the entire industry, and mercury disposal practices of the dental industry. The study was announced, in the 2006 Final Effluent Guidelines Plan issued in December 2006, and offered the public an opportunity to comment. Again, in 2007, EPA requested comment on the study when EPA notified the public of the availability of the 2008 Preliminary Effluent Guidelines Plan. At that time, the American Dental Association (ADA) and the National Association of Clean Water Agencies (NACWA) submitted comments relating to the study of the dental industry's dental amalgam discharges. ADA suggested the idea of a voluntary program to install amalgam separators in dental offices. No state or state organization submitted comments during either of the two public comment periods. As a result, EPA explored a voluntary program with ADA and NACWA in the form of an MOU. The details of the MOU had been agreed upon by EPA, ADA, and NACWA, and at least one of the parties had signed the MOU by December 16, 2008--the date of a letter to the EPA Administrator from Mark MacDiarmid on behalf of the Quicksilver Caucus (QSC) of the Environmental Council of States (ECOS) expressing interest in developing a "nationwide program with a goal of substantially reducing releases of mercury to the environment from dental amalgam mercury."

On January 15, 2009, EPA responded to Mr. MacDiarmid's letter of December 16, 2008, welcoming the participation of the QSC in EPA's "efforts to educate and promote best practices for reducing discharges of dental amalgam, particularly the use of amalgam separators." Since then, EPA has actively solicited State's views on decisions related to the MOU. I would like to highlight that the MOU explicitly recognizes that EPA, the States, Tribes, or a POTW (publicly-owned treatment works) can promulgate a mandatory amalgam separator program.

On June 11, 2009, ECOS wrote to EPA's Administrator concerning the States' desire to work in partnership with EPA to develop a cross-media, national mercury strategy. Since then, EPA and ECOS have been in discussions, and met on June 24, 2010, to initiate an EPA and states dialogue on mercury. The purpose of this dialogue is to help identify gaps in EPA policies relating to mercury, set priorities, enhance EPA and state collaboration, and identify areas of future work. At this meeting, EPA and state representatives identified a number of possible actions to address mercury, and a process for further discussion.

Question 2. The Environmental Council of the States also testified that after the MOU was signed they petitioned EPA to participate, but were turned down on. ECOS says, "On January 22, 2009, QSC again requested that states be included as parties to the MOU because states are co-regulators with EPA for implementing the Clean Water Act.....EPA replied that they would take QSC's request to the other MOU parties and get back to QSC with a reply." But the reply was NO.

a. Is it true that EPA raised the question with the other signatories, as you had promised the States? Please describe the circumstances.

b. Did EPA oppose expanding the membership of the MOU?

c. If not, which parties blocked expanding membership of the MOU?

Response:

In early 2009, QSC asked to be a party to the MOU, and EPA committed to raise the question of whether to open the MOU to other parties—specifically, to states. EPA did not oppose reopening the MOU. As an alternative to reopening the MOU, EPA committed to share information discussed at meetings with the QSC, and to take no future actions without QSC concurrence. Since early 2009, EPA has regularly communicated with the QSC and has sought their input on such issues as goals for amalgam separator installation, mechanisms for tracking these goals, content of a yearly report, and outreach.

Question 3. The parties to the MOU, including ADA, have responsibility, to "promote compliance with the ADA BMPs by dentists and other members of the dental team...[to] continue and expend its programs to raise awareness and provide training, outreach and implementation resources to dentist and other members of the dental team.

a. When my staff spoke with a top official at ADA about steps ADA is taking to measure the effectiveness of its outreach campaign, such as tracking if dentists are viewing the brochure it produced, we learned that ADA is NOT even tracking that. **How can ADA optimize the efficacy of its efforts to promote compliance with its BMPs if it does not track dentist compliance with them or even whether they look at its brochure?**

b. We have also learned that ADA recently held a conference in Chicago for Illinois dentists on the topic of limiting mercury pollution from dental offices. Of the 85,000 dentists in Illinois, only 21 came to the conference. **How can the purposes of the MOU, namely to obtain a high degree of compliance by dentists, be achieved if outreach efforts, such as the one recently in Chicago, attract so little participation by dentists?**

c. At the current time, the MOU is silent on specific requirements on parties to monitor and evaluate the efficacy of their outreach and compliance achievement efforts. **Given the abovementioned observations, what steps will EPA demand ADA to take to monitor and evaluate the efficacy of their outreach and compliance efforts?**

Response:

EPA believes that ADA's current outreach is inadequate and should be increased. EPA plans to encourage ADA to produce more outreach tools, and to increase their efforts to obtain commitments from state ADA's to participate in this voluntary effort. The effectiveness of ADA's outreach to significantly increase the use of amalgam separators will be measured by the sales data EPAs intends to collect from amalgam separator manufacturers. Should such sales data not show that ADA is meeting agreed upon amalgam separator installation goals, EPA will reconsider its decision not to regulate the dental industry.

Question 4. In your testimony, you acknowledged that EPA was aware that mandatory regulations are considerably more successful in achieving dentist compliance with amalgam separator best management practices. Indeed, a good deal of research has been available to EPA on the topic, including an April 2008 report from the Quicksilver Caucus and a September 2008 report from the Majority Staff of the Domestic Policy Subcommittee. Given the demonstrated importance of a realistic prospect for mandatory requirements for obtaining dentist adoption of amalgam separators, I'm wondering what procedure EPA would follow to reconsider its exemption of dentist offices from effluent guidelines.

a. **If EPA were to re-evaluate its 2008 decision to exempt dentist offices from the 2008 effluent guidelines, what would be EPA's process for doing so?**

b. **Has EPA already made any determinations that would make a re-evaluation of the 2008 exemption unlikely?**

c. **Is EPA biased toward maintaining the dentist office exemption in the 2010 Guidelines?**

d. Does EPA intend to rescind the dentist office exception unless you see verifiable compliance with the MOU's goals in 2010 and 2011?

Response:

EPA did decide not to proceed with a rulemaking at the conclusion of its 2008 effluent guidelines study, and stated in its 2008 Effluent Guidelines Plan that "EPA will continue to examine the percentage of dentists using amalgam separators and their effectiveness at recovering dental amalgam and reducing mercury discharges to POTWs" and that "EPA may re-evaluate its current view not to initiate an effluent guidelines rulemaking for this sector."

As of the time of this letter, EPA has made no determination on whether or not to undertake a rulemaking. EPA will continue to be open to the full range of options and alternatives to reduce mercury discharges from dental offices. EPA continues to believe that voluntary programs are a useful strategy to address environmental issues. However, voluntary programs need to show significant progress, or EPA must explore available alternative strategies, including regulations, to achieve environmental results.

Question 5. In EPA's April 5 letter to me, you characterized EPA's development of a new process to establish emissions factors in the following way:

> **"EPA is developing a new emissions factors program designed to produce high quality emissions factors by the end of next year. Once our new emissions factors development process is complete, any emissions sources (including wastewater sludge incineration and crematoria) that provide electronic source test plans to our Internet-based database will enable us to generate emissions factors for all pollutants, including mercury, using the most current data available.**

In our hearing, we heard from an EPA scientist and from a provide sector expert on the cremation that there were a number of potential complications that could stand in the way of accurate new emissions factors, especially for mercury from crematoria. These complications include:

1. **Difficulty in measuring very small concentrations of mercury in air releases from crematory stacks;**

2. **Difficulty in ensuring that air samples are taken during cremations of corpses that are representative in terms of the number of amalgam fillings present;**

3. **Difficulty in capturing all of the emissions, including emissions that do not exit the stack but rather leak through other parts of the crematorium or that are emitted gradually after the cremation is completed;**

4. **Under reliance on other available evidence that does not consist of actual emissions, such as estimates of mercury input into crematoria based on actual counts of mercury fillings in corpses.**

In order to get an early assessment of how EPA will confront these issues, please inform the Subcommittee:

Question 5. a. – How will the new emissions factors program take into account each of the above listed complications.

Response:

Given our current information, technical challenges, and the small contribution crematoria make to the mercury emissions inventory, EPA does not expect to develop new emission factors for this category of emission sources under EPA's new emission factors program in the near term. We expect that if this does happen, EPA will rely primarily on limited data that are voluntarily submitted from crematoria, and we do not anticipate that significant testing for mercury will occur at crematoria. Based on discussions we have had thus far with the industry and with states, the limited data we may receive from crematoria will likely be limited to stack testing and not from other parts of the crematorium. If, for example, there is mercury in the ashes from a cremated body or in ashes that escape when a door is opened in the crematory, that is not something that EPA expects to be able to include under the emission factor program.

However, EPA is making significant progress in the reduction of industrial mercury emissions to the air. In the past 15 years, EPA has focused most of its mercury reduction efforts on large point sources of air emissions, by establishing mercury emissions standards for sources such as municipal waste combustors, medical waste incinerators, and Portland cement kilns. More recently, we have proposed mercury emissions standards for other sources, including gold mines and industrial boilers. It should be noted by the end of 2010, we will have established standards for sources accounting for at least 90 percent of national mercury emissions (excluding electric utilities). In addition, we are under a consent decree to establish mercury limits for electric utilities by the end of 2011.

Overall, based on available information, including our most recent National Emissions Inventory, we believe mercury emissions from crematoria and other remaining unregulated sources to be quite small. If any of the data we receive changes what we know about emissions from these source categories, we will reevaluate our course of action and establish a timeline over which we can expect to implement that new course of action.

Question 5.b. – Will EPA employ a mass balance approach to validate measurements input into the Internet-based database?

Response:

EPA's information indicates that mass balance is an inaccurate approach for many pollutants and source categories, and does not reliably account for all emissions releases or, particularly,

the points from which emissions can be released. An emissions test is the most accurate means available to estimate air emissions from a source. EPA does not plan to incorporate a mass balance approach into any emissions factor program for crematory.

Question 5.c. – How will EPA get access to unregulated entities, such as crematoria? In which States does EPA believe it can currently obtain access to measurements of the air emissions from crematoria?

Response:

EPA can obtain emissions information in several ways, including data from state-compiled databases, and voluntary submissions from industries or industrial trade associations. As noted above, we anticipate that EPA's emission factors program will rely on voluntary submissions of emissions data from crematoria. We have had productive discussions with the Cremation Association of North America (CANA) and we have encouraged them to submit data to EPA. EPA does not believe the states will have sufficient information on mercury emissions from crematoria for emission factors development.

Mr. KUCINICH. Now will you look at the screen please? Ms. Stoner, this graph depicts the actual sales trends of mercury separators to dentists by the largest manufacturer in the Nation. Sales pick up dramatically just prior to mandatory regulations kicking in, which is depicted by the shaded column. Is not this evidence that dentists respond to mandatory regulations requiring adoption of mercury separators?

Ms. STONER. I would agree that appears to show that. Yes, sir.

Mr. KUCINICH. Well, I would like you to look at the trend lines to the left of the shaded bar there. I would like you to look at it closely.

Ms. STONER. OK.

Mr. KUCINICH. I would like you to look at the trend lines to the left of the shaded box.

Ms. STONER. OK.

Mr. KUCINICH. See how the purchase rate is? See how the purchase rate decreases the further away you go from the shaded bar? That is the voluntary period that preceded the mandatory requirements. So there is evidence here that dentists don't generally adopt mandatory separators on a voluntary basis.

Ms. STONER. There is some——

Mr. KUCINICH. Would you agree?

Ms. STONER. There is certainly some variation, but in general the sales certainly go up after the regulation date, effective date. That is correct.

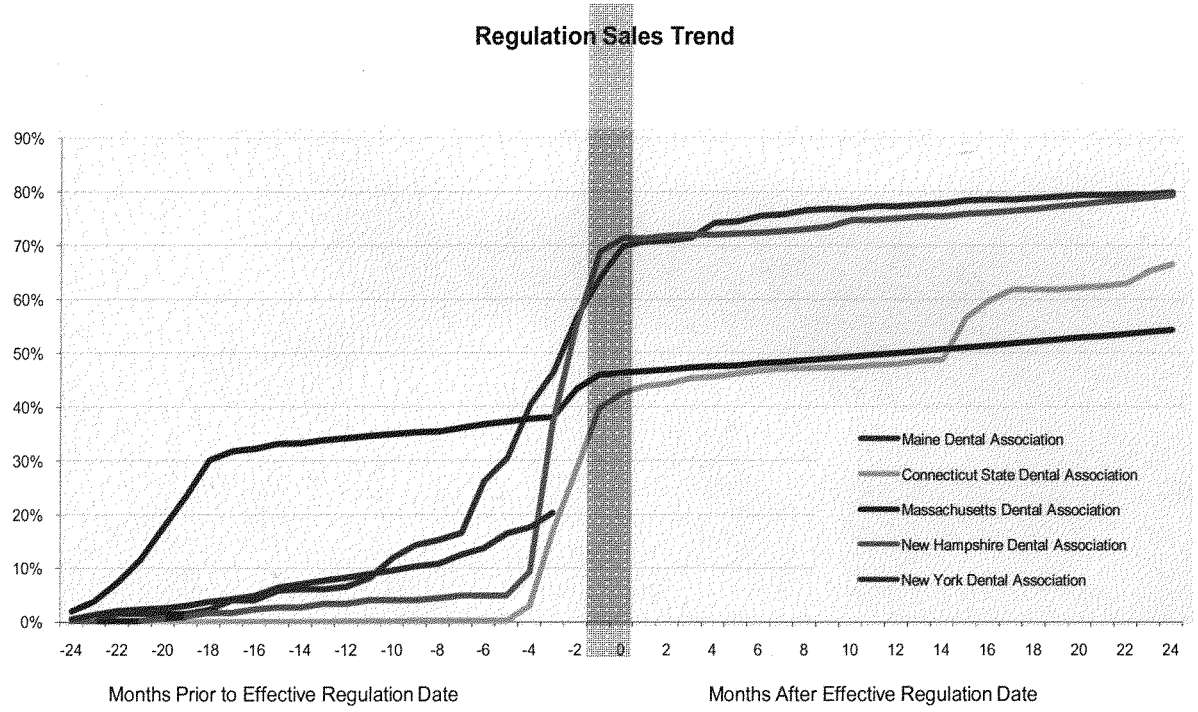
Mr. KUCINICH. And if you look at the voluntary period, you have mandatory regulations, compliance goes up; voluntary regulations don't appear to go, appear to be low compliance, right?

Ms. STONER. I can't really tell what the voluntary program is that precedes the bar, but it certainly looks like the regulation makes the sales go up. That I can tell.

Mr. KUCINICH. So don't you think that this shows voluntary efforts by dentist trade associations since the signing of the memorandum of understanding—excuse me. I am going to go to Mr. Jordan.

[The information referred to follows:]

Sales of System



Mr. JORDAN. Thank you, Mr. Chairman.

Ms. Stoner, did you agree with my good friend and colleague, Mr. Burton, his analysis of the situation, his conclusion on the situation?

Ms. STONER. I thought he made a number of excellent points. Certainly his points about the dangers associated with methylmercury are well taken. I also thought his point about people being probably less likely to get amalgam fillings if they had better information about the mercury in amalgam fillings was also a compelling point.

Mr. JORDAN. Then I think the chairman's question is the $64,000 question. If, in fact, EPA thinks it is that bad—and I don't know. I think the EPA over-reaches on a lot of things—if, in fact, you think Mr. Burton's analysis is correct, why the decision on the memorandum of understanding, why was that made?

Ms. STONER. Again, I——

Mr. JORDAN. I mean, if this is as terrible as my good friend points it out to be, it seems to me you would be making the rules, doing the things that you think are going to protect us. I mean, that is the big question. We would like an answer.

Ms. STONER. Right. There is——

Mr. JORDAN. I don't know if it is right or wrong. Look, based on what you just said in response to Mr. Burton's statements, it seems to me we need that answer.

Ms. STONER. I think there are two different things we are talking about, one of which is the use of dental amalgam by patients, and that is a decision that is partly environmental and partly medical, and we think that the FDA is better situated to make that decision.

Mr. JORDAN. Let me clarify. So you think mercury in some other forms, what Mr. Burton had to say is right on target, but specifically to the filling put in the patient's teeth while they are in the dental office doesn't rise to that, maybe not as bad as Mr. Burton might have said. Is that your conclusion?

Ms. STONER. No.

Mr. JORDAN. It would seem to be so, based on what the EPA's decision has been.

Ms. STONER. OK. Well, I may not be making myself clear, so let me try to do better. What I am saying is that the EPA is not in the lead role in deciding what dentists use in the dentistry that they practice. There are other agencies that are better situated to make decisions about those medical issues. EPA is looking at the issues of mercury emissions, air emissions, and mercury in wastewater discharges, and what I am saying is that it is a concern. Mercury in wastewater discharge is a concern, and that is one that we are evaluating at the Agency, along with other pollutants of concern that cause human health or environmental impact.

Mr. JORDAN. But I just want to be clear. The memorandum of understanding is between the EPA and the ADA, correct?

Ms. STONER. Yes, sir, but it is not about the use of dental amalgams. It is about use of amalgam separators. That doesn't, either way, whether the patient uses dental amalgam or some other kind of cavity, I am not a dentist, but some other kind of filling, then the mercury would be captured in the amalgam and it would then

stay out of the sewage treatment plant and stay out of the wastewater of the sewage treatment plant. That is what our agreement is about.

Mr. JORDAN. OK. Thank you, Mr. Chairman.

Mr. KUCINICH. Mr. Burton.

Mr. BURTON. First of all, I appreciate your acknowledging some of the things that we talked about. I appreciate that, Ms. Stoner.

The one thing that kind of bothers me is one agency kind of passing the buck to another agency and back and forth and back and forth. I had people from the HHS and FDA before the committee, and when my grandson became autistic I said, would you mind if I injected you with the amount of thimerosal with mercury in it that my grandson got in 1 day, and they said it wouldn't affect them but they wouldn't want it injected it into them. It was kind of an interesting answer they had.

But here is the position the FDA has taken. For the first time ever, the FDA publicly admitted that dental amalgam contains highly toxic mercury and therefore requires a variety of warnings on the product label. That is clearly a significant improvement over the FDA's former position that mercury amalgams are 100 percent safe. That was their previous position.

Unfortunately and inexplicably, new warning requirements have nothing to do with patient safety. It is just putting it on the label on the product. And the FDA still does not require dentists to warn patients in any way about the harmful neurotoxins in the dental amalgam.

Considering the fact that in 2006 the FDA's own panel of outside experts concluded that it is "not reasonable for the FDA to have the position that mercury amalgam fillings are safe." How can the FDA not insist that dentists warn patients about the dangers? They had this outside group come in and look at it, and they said, well, we can't take the position that it is safe, which means there is a real question about whether or not it is safe.

Now, if dentists want to go ahead and continue to use that, then I think the obligation is clear: let the patients know that it is in there. And 90 percent of the people who have dental fillings that are amalgams do not know that it has mercury in them, and so they are being exposed without their knowledge.

I think the thing that has bothered me the most is that we are having such opposition from the dentists, because they are getting information from the FDA and HHS that says this is not harmful, and yet they are not supposed to flush it down the drain, and they know that it is toxic if they get it on them before they put it in the mouth and they mix it all up, but they have been told that it is not harmful. And so the dentists I think rightfully say, Why are you telling us what to do when the FDA and HHS says there is no problem?

And so the dentists say guys like me are nuts. Maybe that is true. I don't know. But the fact of the matter is they are now starting to admit that there is a serious problem.

So what I can't understand is why the FDA and HHS and the EPA don't get together in a panel and sit down and say, How do we make sure that this is properly regulated and properly brought to the attention of the American public? I would suggest that is

something that should be done. EPA has the authority, FDA has the authority to do a lot of these things.

The other thing I would like to say before my time is up. I talk to the pharmaceutical companies, the presidents of these companies, major companies, Merck, Eli Lilly, a whole bunch of them, and I said, If you will put more money into the vaccine injury compensation fund to help people who have been damaged, if you will get mercury out of all the vaccines, adult and children, and they can do that in an economical, satisfactory way, then I will introduce legislation that will protect you from class action lawsuits. I will do everything I can to make sure that you are not going to face any harmful financial problems because of past experiences.

Now, when I said that one out of 10,000 people used to have autism, kids, now it is one in less than 100, we know there is a big problem. So if we protect the pharmaceutical companies by giving them protection from class action lawsuits if they will do these things, get the mercury out and put more money into the vaccine injury compensation fund, I don't know why they won't do it.

And I will do the same thing for the dentists. If dentists are afraid that they are going to be sued by people that have neurological problems that they allege came from amalgams that they used in filling their teeth, I will do everything I can to protect them, as long as we get the mercury out of the product and get it out of people's mouths. Until that time, I hope that the EPA, the FDA, and HHS will get together and come up with some way to make sure the public is aware of what is going on. OK?

Ms. STONER. Thank you.

Mr. BURTON. Would you carry that message back?

Ms. STONER. Yes, sir, I will.

Mr. BURTON. Thank you very much.

Mr. KUCINICH. We are going to begin the third round of questioning. There will be a final round of questioning of this witness.

Before I begin, I just want to say to my colleague, Mr. Burton, I just want to say before we begin the third round of questions that I have watched for years your advocacy on this and other health issues, and I am proud to serve with you in this Congress.

Mr. BURTON. Thank you, Mr. Chairman. I really appreciate it.

Mr. KUCINICH. You have really been outstanding and courageous in your pursuit of the questions underlying the effects of mercury in vaccines and a whole range of areas, and I really appreciate it.

Mr. BURTON. Thank you very much. I wish you would call my wife and tell her that. She doesn't appreciate it. [Laughter.]

A little levity won't hurt.

Mr. KUCINICH. Anything I can do to help you, Mr. Burton, I will be glad to.

Now I am going to go to a final round of questions of this witness.

I am concerned that EPA signed a memorandum of understanding with someone who can't make the change the memorandum of understanding seeks. When my staff spoke with a top official at the ADA about steps ADA has taken to measure the effectiveness of its outreach campaign such as tracking if dentists are using best management practices or even viewing the brochure produced, we learned that the ADA is not even tracking that.

How can ADA optimize its efficacy in promoting compliance with its best management practices if it doesn't track dentists' compliance with its best management practices, or even whether they look at its brochure?

Ms. STONER. I agree with you, Congressman. It would be better to have more outreach and more installation of those amalgam separators.

Mr. KUCINICH. What we are seeing is a perfunctory performance here. We have learned that just this month ADA held a conference in Chicago for Illinois dentists on the topic of limiting mercury pollution from dental offices. The results weren't particularly impressive. Of the 8,500 dentists in the State of which 6,600 are members of the State Dental Society, only 21 came to the conference.

Now, Ms. Stoner, I am calling this to your attention because I think it is worth you looking at the ADA's outreach efforts and to see if they can be more encouraging.

You have a report from the Quicksilver Caucus of the State EPA offices, a report from this subcommittee, and the most recent sales data of the largest seller of mercury separators all showing that dentists are not, in fact, voluntarily adopting mercury separators in significant numbers, yet the memorandum of understanding depends upon their doing so.

Can they demonstrate the importance of a realistic prospect for mandatory requirements for obtaining dentists' adoption of amalgam separators? I am wondering what procedure EPA would follow to reconsider its exemption of dentists' offices from effluent guidelines?

Ms. STONER. We will be gathering additional information. We agree with you about the need to get additional information in order to make a determination, and we have committed to doing that, including from the manufacturers.

Mr. KUCINICH. I am wondering why you wouldn't strongly say right now that you intend to rescind the dentist office exception as of, say, the 2012 effluent guidelines unless you see verifiable compliance with the memorandum of understanding goals in 2010 and 2011?

Ms. STONER. We have a process we have to go through on the effluent guidelines planning, and I don't want to get ahead of that process, so we are committing to you that we will look at it in that process and make a determination.

Mr. KUCINICH. Ms. Stoner, we have a process here, too, and what is noteworthy is that there is nothing that is separating individuals from both political parties who are determined to get to the truth of exactly what is happening here. So I understand about your process. Our process here is going to continue to go deeply into what I personally feel are the shortcomings of the EPA's responsibility in this regard. And I come to this not as someone who is a consistent foe of the Environmental Protection Agency. I am a friend. And I am such a good friend that if I see something wrong I am going to tell you.

The Chair recognizes Mr. Jordan.

Mr. JORDAN. Thank you, Mr. Chairman. I will just be real brief and we will get to the second panel. I want to talk with the witness from the ADA.

The chairman, in his comments, talked about the fact that only 21 dentists I believe showed up at a conference in Illinois. While the conference obviously was important to talk about mercury, I would just remind members of the committee that these guys are small business owners. They have to attend to their practice. They have to attend to meeting the needs of their patients in their communities. It is not always easy just to pack up and go. So I think there is a balance we have to keep in mind as we look at this whole issue and evaluate what is the best means and best process as we move forward.

As I said, Mr. Chairman, I will yield back and wait for the second panel.

Mr. KUCINICH. I thank the gentleman.

The Chair recognizes Ms. Watson.

Ms. WATSON. Mr. Chairman, I want to thank you. I also want to thank Member Burton, who is not in the room at the moment. We have been working on this issue ever since I have been here, and I am completing my 10th year and I will be retiring after this year. I worked on this same issue on mercury pollution when I was chairing the Health and Human Services Committee in California for 17 years. I finally had a Governor that appointed a dental board who looked at the dental amalgams and said we see some problems here. That particular Governor was recalled and this has been hidden again.

So what I want to do, I will wait until the second panel comes up, and I would like to read my opening statement if I may.

I yield back my time.

Mr. KUCINICH. And I would just say to the gentlelady, if she would like to read her opening statement now, so that Ms. Stoner will have the benefit of hearing it, and then when you conclude I will call the second panel.

Ms. WATSON. Thank you so very much.

Mr. KUCINICH. Without objection.

Ms. WATSON. I have been a staunch opponent of mercury amalgams. For those of you that do not know what an amalgam is, it is a substance that you put into a cavity to fill it, and it is what is in that amalgam. The amalgam looks like silver, it is 50 percent mercury. SB 65 in California of about 20 years ago rates mercury as the most toxic substance in the environment. So I have been an opponent of mercury amalgams since my days in the California State Senate, where I helped pass a law that requires a fact sheet about dental fillings being given to consumers without any information about what is being put into their mouth.

I believe that it is very important, it is essential for consumers to know about the toxins they are putting into their bodies, especially when it is one that implanted into their mouths and helpless children's mouths and senior citizens, and could possibly affect them for the rest of their lives.

For this reason, this Congress I introduced the CHOMP Act, H.R. 4615, CHOMP. This bill will require dentists to give consumers a fact sheet prepared by the Food and Drug Administration outlining the dangers of each type of filling.

Now, you know in California, and I would hope in the rest of the country, we are concerned about the atmosphere. We were the first

State to outlaw and ban smoking on airplanes in California air space. It took us 14 years to do that, and then the rest of the country followed, and now it is global.

Now, I am sure that we all know that mercury is one of the most toxic substances. If you don't know, we are going to tell you. Third on the CERCLA list of toxic chemicals. We also know that amalgam releases sufficient amounts of mercury that can be absorbed by our bodies.

That is the reason why, if you are in California, you are warned not to eat tuna along the western coast of southern California, because in a dental office what do you do with the waste? You put it into a tube. It goes right out into the plant and into the ocean and gets into the sea life and gets into the shell life and so on. That is a fact.

Mercury poisoning has been shown to cause mental disorders, autoimmune disorders, and other chronic illnesses. It is thought that mercury also plays a role in Alzheimer's disease and in MS. It is a documented fact that mercury can also transfer from pregnant women through the placenta to the developing fetus. Children and fetuses are especially at risk because of the developmental risk posed by mercury, yet women who are pregnant or plan on becoming pregnant are not told of the risk associated with their new mercury fillings. Everyone likes to show their new fillings. Look at this silver I have in my mouth.

So informing the consumer is the right thing to do. I think everyone needs to know what is added to whatever they put in their body, because you know if you look at cigarettes and tobacco, it tells you what it can do to your health, and I think you make the choice. You suffer the consequences.

I know that many of these ill effects are real. In my time fighting for this issue I have met so many people who have told me their health histories, of being constantly fatigued after getting their mercury amalgam fillings, of their lives being crippled by chronic headaches, of being told that they have an unknown autoimmune disorder only to be relieved of their troubles after they removed their mercury amalgam fillings.

I sit in front of you as a witness and a victim. I had my mercury amalgams, Mr. Chair, put into my mouth when I was 9 years old. My father was a police officer, so he could practically get it done free. I have suffered from allergies all of my life until an investigating team from abroad came in and they said, my God, you are suffering from mercury poisoning.

I went to my dentist, asked him to remove, and he would not. Very few people know how to do it. I had to go to Mexico, Ms. Stoner, and it took me 6 weeks and was very expensive. It has changed my life. It has changed my looks. And it changes the aging process, I can tell you that. I can tell you that. And the doctor who did it was educated here, and he would not do the mercury fillings that were required at his university, so he left and went to the University of Mexico, and he lives here in the States and goes over the border to practice, because dentists will tell me now. I didn't get the backing of the EPA, so that is the situation. It really made a difference.

He didn't give me medication, he gave me herbs. He told me take these herbs until you clean your system. I tell you, it has made a difference. People have accused me of having a face lift. No. I took the mercury out, and I tell everyone I can, remove your mercury amalgams.

So in response to the CHOMP Act the American Dental Association, quoting the FDA, issued a statement saying that mercury amalgams are safe. That is a lie. Quote me. And if there is any press in this room, quote me, please. I have the facts. You can come to my office. I will share this with you.

We have done research nationally and internationally. We are killing ourselves because, as one group of dentists said to me, people of color don't like to go to the dentist. So that is the reason why we continue to use amalgams, because they are safely combined and well filled. I said, do you ever consider that kids go skating or biking and they fall and crack their teeth? Happens every day. Do you ever consider that they get teeth pulled out? Happens every day.

If you want a test, there is a probe you can put in your mouth and you can see the vapors from the mercury going to your T-zone. What is at the top of your T-zone? Yes. I see a lady in the back. She says, What's at the top of your T-zone? Your brain. And what is covering your brain? A thin skin called the meninges. And guess what? Mercury affects the meninges of the brain.

So why do so many of our children do poorly in school? Because they chew on paint on their cribs that have lead in it, and the mercury that they put in 9 years old in their teeth also goes up.

So just think about that. We are going to find why so many women are having cancer and breast cancer now. It is something we add in or something in that can and so on. We are going to continue to do the research until we can convince that mercury has no place in the human body.

Now, if you read FDA's rule, FDA, itself, admits that the report that was published by the Trans-Agency Working Group on the Health Effects of Dental Amalgam in 2004 concluded that there were "important data gaps, including whether low-level mercury vapor results in neurotoxicity." I am a witness and I will testify on any stand to it. Also, studies that have been performed do not account for mercury from other sources, nor are they sufficiently long term. That is why we need to inform people so they can make their own choices.

We have for years informed and warned consumers about the risks of consuming fish with a high mercury content. Now we are learning that dentists' offices contribute approximately—get this—50 percent of mercury in wastewater, much of which makes it into the environment. In 2002 a report from the University of Chicago concludes this number could be as high as 70 percent.

After the passage of the mercury ban by then-Senator Obama, it is baffling that we still allow dentists to pollute our water and air with mercury. Mercury has vapors that are always being emitted, always being emitted, especially when they can install a $500 mercury separator that has the ability to capture more than 90 percent of the mercury waste. I have been thinking so much about how our sea waters now are polluted down in the Gulf because of the escap-

ing oil, and they are trying to break it up, and whatever they are putting in to break up the modules, killing the fish and the birds and so on. We need to be more proactive and wiser.

Additionally, dental mercury amalgams contribute to the mercury burden in the environment through a very unlikely source, and that is crematoriums. As dentists continue to install mercury amalgams into mouths, these installations release mercury into the air during the cremation. Is there no end to the ill effects of mercury, right to the end of the life process and the disposal of the bodies?

So in conclusion, Mr. Chairman, I want to say that I firmly believe that mercury amalgams should not be used. If the ADA is going to insist on their continued use, then dentists have the obligation to inform their patients in advance, and dentists also have the obligation to prevent environmental harm, remember, you take that Hippocratic Oath, by installing mercury separators as a voluntary program has not worked. It is time the EPA takes the initiative to regulate mercury in water and air, and one very important aspect of that air is the pollution of mercury amalgam.

Mr. Chairman, I really want to thank you and the minority Member again for holding this hearing. As you can hear, I am very emotional about this issue. Thank you.

[The prepared statement of Hon. Diane E. Watson follows:]

Statement
Congresswoman Diane E. Watson
Domestic Policy Subcommittee
Government and Oversight
Wednesday, December 26, 2010
1:30 p.m.

"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentists Offices"

Good afternoon, and thank you Mr. Chairman for holding this exceptionally important hearing on mercury amalgams and the mercury pollution that results from dentist office use of hazardous mercury fillings.

I have been a staunch opponent of mercury amalgams since my days in the California State Senate, where I helped pass a law that requires a fact sheet about dental fillings be given to consumers. I believe that it is very important for consumers to know about the toxins they are putting into their bodies, especially when it is one that is implanted into their mouths and could possibly affect them for the rest of their lives.

For this reason, this Congress, I introduced the CHOMP Act, H.R. 4615. This bill will require dentists to give consumers a fact sheet prepared by the Food and Drug Administration outlining the dangers of each type of filling.

Now, I am sure that we all know that mercury is one of the most toxic substances, third on the CERLA (*sirla*) list of Toxic Chemicals. We also know that amalgam releases sufficient amounts of mercury that can be absorbed by our bodies. Mercury poisoning has been shown to cause mental disorders, auto-immune disorders, and other chronic illnesses. It is thought that mercury also plays a role in Alzheimer's disease and MS. It is a documented fact that mercury can also transfer from pregnant women through the placenta to developing fetuses. Children and fetuses are especially at risk because of the developmental risks posed by mercury. Yet women who are pregnant or plan on becoming pregnant are not told of the risks associated with their new mercury filling. Informing the consumer is just the right thing to do.

I know that many of these ill effects are real. In my time fighting for this issue, I have met many people who have told me their health histories of being constantly fatigued after getting their mercury amalgam fillings; of their lives being crippled by chronic headaches; of being told that they have an unknown auto-immune disorder only to be relived of her troubles after they remove their mercury amalgam filling.

In response to the CHOMP Act, the American Dental Association, quoting the FDA, issued a statement saying that mercury amalgams were safe. However, if you read FDA's rule, FDA itself admits that the report published by Trans-Agency Working Group on the Health Effects of Dental Amalgam in 2004 concluded that there were quote "important data gaps, including whether low-level mercury vapor results in neurotoxicity," end quote. Also, studies that have been performed do not account for mercury from other sources, nor are they sufficiently long term.

This is why we need to inform consumers, so they can make their own choices.

We have for years informed and warned consumers about the risks of consuming fish with a high mercury content. Now we are learning that dentist offices contribute approximately 50 percent of mercury in waste water, much of which makes it into the environment. A 2002 report from the University of Chicago concludes this number could be as high as 70 percent. After the passage of the mercury ban by then-Senator Obama, it is baffling that we still allow dentists to pollute our water and air with mercury. Especially when they can install a $500 mercury separator that has the ability to capture more than 90 percent of their mercury waste.

Additionally, dental mercury amalgams contribute to the mercury burden in the environment though a very unlikely source, crematoria. As dentists continue to install mercury amalgams into

mouths, those installations release mercury into the air during cremation. Is there no end to the ill effects of mercury?

So in conclusion, I want to say that I firmly believe that mercury amalgams should not be used. If the ADA is going to insist on their continued use, then dentists have the obligation to inform patients in advance. Dentists also have the obligation to prevent environmental harm, by installing mercury separators. As the voluntary program has not worked, it is time EPA takes the initiative to regulate mercury in water and air, and one very important aspect of that is mercury amalgam.

Mr. Chairman, I want to thank you again for holding this hearing. This is an issue that is very close to my heart and I hope that we will be able to make progress in the near future.

Mr. KUCINICH. I thank the gentlelady for her testimony.

Thank you, Ms. Stoner, for your presence and joining us and listening to Ms. Watson's statement.

I want to thank Mr. Jordan for being here. You are welcome to come back, if you are able to, from your busy schedule.

Ms. Stoner, you are dismissed as a witness.

Ms. STONER. Thank you.

Mr. KUCINICH. We want to invite the other witnesses to come forward.

While the witnesses are coming forward, I would like to make the introduction of our second panel.

Mr. William Walsh is of counsel, Pepper Hamilton, LLP, where he heads that office's environmental practice group, and he is representing the American Dental Association. Before 1986, when he joined Pepper, Mr. Walsh served as Section Chief of the U.S. EPA Office of Enforcement as lead EPA counsel on a precedent-setting hazardous waste lawsuit brought against Occidental Chemical Corp. concerning Love Canal and related landfills.

Next will be Mr. R. Steven Brown, the executive director of the Environmental Council of the States, the national nonpartisan association of the States' environmental agency leaders. Mr. Brown helped form the Environmental Council of States in 1993. Previously he worked with the Council of State Governments as its chief environmental staff and with private engineering firms in the Kentucky Environmental Agency. He has 34 years of experience in State environmental matters. As the chief executive of ECOS, Mr. Brown has been closely involved in its mercury policy matters for the last 10 years, including the work of the Quicksilver Caucus and mercury policies of the association.

Another witness that we were anticipating, Mr. Alfred Dube, who is National Sales Manager of SolmeteX, had to cancel his appearance here today due to death in the family. Without objection, I ask unanimous consent to include Mr. Dube's statement in the record of hearing, and this committee sends its condolence to him on the death in the family.

[The prepared statement of Mr. Dube follows:]

Statement of Alfred Dubé

National Sales Manager

SolmeteX

A division of Layne Christensen

to the

Domestic Policy Subcommittee

Oversight and Government Reform Committee

Wednesday, May 26, 2010

Good afternoon, Mr. Chairman and members of the Subcommittee. I am Al Dubé, National Sales Manager, Dental Division of SolmeteX, a division of Layne Christensen. SolmeteX was founded to transition technologies from biopharmaceutical separations to treat water, wastewater and process waters. Early in SolmeteX history the focus was to create sorbent technologies resulting in a leap in technology for the water treatment marketplace. SolmeteX was successful at transfering biopharmaceutical advanced affinity chromatography type of separation to the water treatment industry. Using this innovative technology, SolmeteX was successful in reducing mercury discharge from clinical laboratories, hospital effluents, industrial wet scrubber discharge and industrial discharge earned SolmeteX an EPA Innovator award. With the introduction of the Hg5 amalgam separator, SolmeteX created the market leading device for reducing mercury concentrations from dental facilities.

Introduction:

SolmeteX has a vested interest in the prospect of dental office wastewater discharges being filtered through amalgam separator systems. As the leading amalgam separator manufacture in US sales with approximately 70% market share, SolmeteX would profit from the increase in separator installations should separator mandates be enacted. For this reason, it is my intent to present data without opinion. I will attempt to stick to the data. My focus will be in two primary areas.

1. A summary of amalgam separators and their impact at POTW's with new data on the impact of treatment.
2. Memorandum of Understanding and the relationship to SolmeteX sales

AMALGAM SEPARATORS AND THEIR IMPACT ON POTW'S

I think it is important to understand amalgam separators are devices used to collect solid waste particulate from dental vacuum lines. The process for separation utilizes one or more of four basic separation methodology, sedimentation, mechanical filtration, chemical or centrifugal. These

technological principles have been utilized in water treatment for years to remove particles in high and low flow applications. Of the amalgam separators available in the US most use sedimentation as the primary technology for separation. Regardless of the methodology utilized the efficiency of amalgam separators across the spectrum of manufactures is effectively the same.

The US EPA, State and local regulatory community continually look for point source opportunities within their Pollution Prevention (P2) programs to reduce contaminants prior to entering the sewer system. Sewage treatment plants do not have the capability in large scale to remove metals such as mercury from influent wastes at the treatment plant. Reductions of contaminants at the source greatly increases the opportunity to prevent contaminants entering the environment through the waste channels of sewage treatment plants. Amalgam is comprised of 50% mercury by weight copper, silver, lead and other metals discharge from dental offices has been designated as the most significant source of mercury to sewage treatment plants. The use of amalgam separator reduces the mercury loading most significantly within biosolids and also effluent water discharges from Publicly Owned Treatment Works (POTW's)

Many studies document the effectiveness of amalgam separator installation in dental facilities with significant reductions of mercury concentrations at POTW's. The Paris Commission (PARCOM) in their Recommendation 93/2 states "the discharge of dental amalgam into municipal sewage systems has been significantly reduced by the use of separation equipment in recent years, in most cases by at least 95%." In Minnesota two POTW's reported reductions in mercury in biosolids, 44% at Hastings and 29% at the Cottage Grove facility in a three month period. In Seattle, King County reported a mercury reduction in the biosolids at approximately 50%. The US Navy, documented a 52% decrease in POTW biosolids while received Notices of Violations were reduced from 54 to 3.

In a recent US EPA audit of Security Sanitation District a small sewage treatment plant in Colorado under effluent mercury discharge violation action by the state of Colorado, mandated amalgam separator installation program for the six dental offices discharging to their POTW. The POTW's effluent permit limit for mercury discharge was set at 11 nanograms per liter (ng/l). After installation of amalgam separators effluent limits were reduced to at or below the permitted limit. A SolmeteX polishing system consisting of a combination of chemical and mechanical filtration was installed at the closest dental office to the POTW. Additional mercury reductions were recognized resulting in an averaging 8.13 ng/l below the required 11ng/l permitted limit. The US EPA audit attributes the mercury reductions directly to the installation and maintenance of the amalgam separator systems. In recent years a white paper presented by the National Association of Clean Water Agencies (NACWA) suggested significant reductions of mercury in biosolids. NACWA noted a reduction in effluent mercury concentrations but found less impact at below 10 ng/l.

MEMORANDUM OF UNDERSTANDING

In December of 2008, US EPA, the American Dental Association (ADA) and NACWA entered in to a Memorandum of Understand dedicated to the implementation of best management practices as defined by the ADA to include the installation of amalgam separators on a voluntary basis.

As a result of the MOU much discussion has occurred within non-regulated states concerning this issue. South Carolina, Missouri, North Dakota, Illinois and Iowa have all contacted SolmeteX since the MOU was signed requesting the possibility of an endorsement. These inquiries were unsolicited by SolmeteX. The Missouri Dental Association this past March launched a BMP program designed to educate their dental members with the desire to have members install amalgam separators. The initial program involved newly designed promotional materials and a presentation from a former ADA researcher.

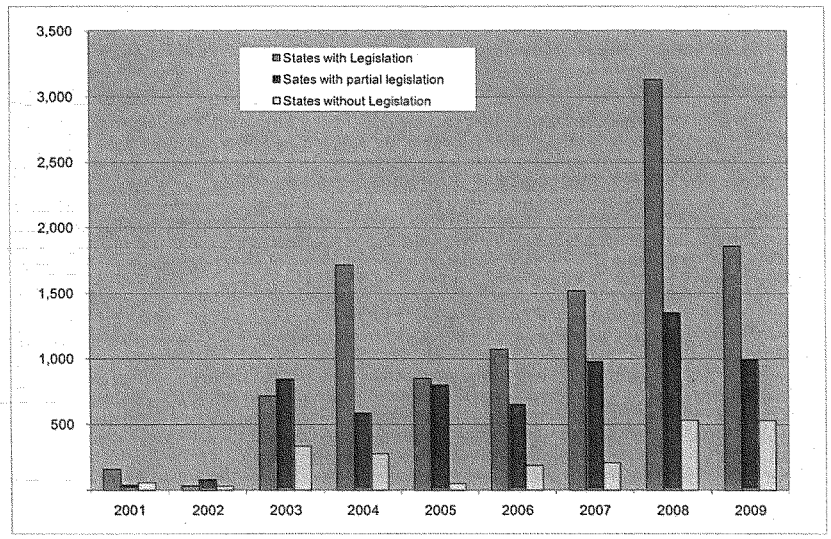
As a function of the MOU, a baseline of amalgam separator installations is to be developed with the intent of tracking future progress of the voluntary installation of amalgam separator. Two surveys were administered by the ADA: an electronic version and a paper version. Results of the surveys suggest 51% of dental facilities in the US and 36% of dental facilities in non-regulated states had installed amalgam separators.

The US EPA "Health Services Industry Detail Study, Dental Amalgam (August 2008)" suggests the potential number of dental facilities in the US placing or removing amalgam to be approximately 122,000 facilities. An ADA marketing document published in 2007 reflects states a numeric total of 228,115 dentists representing all US dentists and dental students. Of the 228,115 dentists, 44,575 represent specialists who do not place or remove amalgam leaving 184,480 general practitioners. Assuming that 1/3 of general practitioners practice in multiple dentist facilities an estimated 121,756 facilities would require the use of an amalgam separator corroborating EPA assessment of 122,000 facilities. ADA's estimate of 51% installations would suggest 62,220 installed separator units in US dental facilities. Manufacturers data gathered by EPA suggests approximately 26,500 separators sold with two manufacturers not reporting. It is my assessment companies not reporting represent an additional 12,000 units suggesting approximately 38,500 units sold in the US or approximately 32% of dental facilities who place or remove amalgam currently have installed amalgam separators.

SolmeteX data is segregated in to three queries, regulated states, partially regulated states and non-regulated states.

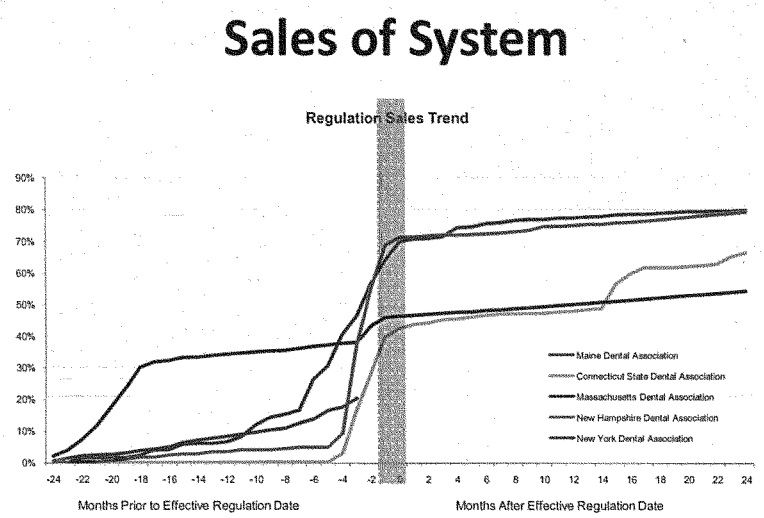
	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
States with Regs	161	33	717	1,716	850	1,074	1,520	3,130	1,861	11,061
State w/ part. Regs	38	83	845	587	799	652	978	1,353	993	6,328
States without regs	57	30	334	278	52	189	210	532	531	2,213

Of the total systems sold, 13% of systems have been sold in non-regulated states (17,398 systems sold in regulated or partially regulated states compared to 2,213 systems sold in non-regulated states). There was no increase in the number of systems sold to non-regulated states between 2008 and 2009 the first year of the MOU. From 2008 to 2009 approximately 19% of the units sold were in non-regulated states.



Regulatory action at this time is relatively slow. Of the current state regulations currently in force Oregon is the next deadline to arrive, January 1, 2011. The effective date of the regulation was January 1 of 2008, providing three years before the deadline. Our estimate of dental facilities in Oregon requiring amalgam separators based on the previously describe dental facility formula is approximately 1900 facilities of which 634, (approximately 33%) have purchased a SolmeteX amalgam separator to date. There are three amalgam separator manufacturers in the northwest, so the possibility of there being a

greater number of units sold in Oregon is a distinct possibility. However, based on previous state deadlines, approximately 80% of the systems were sold in the last 4 months prior to the deadline as demonstrated in the graph below.



The above graph is based on actual sales data for five regulated states where SolmeteX amalgam separators were sold. The "Y" axis is the percentage of sales within each represented state. This is a representation of the percentage of total sales in each state approaching the designated deadline.

In Connecticut, a year after the required deadline, we estimated that 20 -25% of required dentists had not purchased separators. The Connecticut DEP sent a letter to all dentists requesting installation data, within the next two weeks, SolmeteX sold approximately 160 units into the state of Connecticut. Similarly, New York's regulatory deadline for amalgam separators was May 12, 2008. I estimate that approximately 30 – 40% of New York dentists have not purchased and installed amalgam separators at this time. It is difficult to confirm this estimate however as the reporting requirements were not

established at a central location but with individual POTW's. I am not aware of any data from New York Department of Environmental Conservation detailing any amalgam installation data.

SUMMARY

In summary, the data presented illustrates the following:

1. Amalgam separators are solids collectors which when installed have a proven effect of reducing mercury loading in both influent biosolids and effluent POTW discharge.
2. Sales of amalgam separators in non-regulated states have not to this point been influenced by the Memorandum of Understanding signed by US EPA, ADA and NACWA
3. Sales of amalgam separators are dramatically influenced by the promulgation of regulations requiring the installation of amalgam separators and BMP's.
4. Sales timelines for purchasing of amalgam separation occurs primarily with the last four months of required installation deadlines regardless of the length of time granted before the deadline.

I would like to thank the Oversight subcommittee for the opportunity to present this data. My hope is this data is of value.

Mr. KUCINICH. Mr. Alexis Cain is an environmental scientist with the U.S. EPA Region 5 Air and Radiation Division. Mr. Cain holds a Master's in International Affairs from American University, Master's in Environmental Studies from Yale. He has been with the U.S. EPA for 15 years. He works on mercury control efforts including as the U.S. co-lead from the Great Lakes Bi-National Toxic Strategy and on the development of mercury reduction strategies under the Great Lakes Regional Collaboration. He is testifying before this subcommittee on his own behalf and his testimony is not in his official capacity and he does not represent the positions of the EPA. I wanted to make sure that disclaimer is put out there.

Mr. John Reindl is a retired professional engineer who worked for Dane County, Wisconsin, as their recycling manager for many years, including on programs to reduce the flow of mercury to the environment from products. He has researched and written on mercury air emissions from crematoria. His reference paper on crematoria, which is updated on an ongoing basis, has over 130 references to both literature and discussions with people everywhere. The Mercury Policy Project was formed in 1998 and works to promote policies to eliminate mercury uses, reduce the export and trafficking of mercury, and significantly reduce mercury exposures at the local, national, and international levels. That is certainly due, in great part, to the initiation work of Mr. John Reindl.

It is the policy of the Committee on Oversight and Government Reform to swear in all witnesses before they testify. I would ask that you rise and raise your right hands.

[Witnesses sworn.]

Mr. KUCINICH. Thank you. Let the record reflect that each of the witnesses has answered in the affirmative.

I would ask that each witness give an oral summary of your testimony. Keep this summary, if you would, to 5 minutes in duration. Your complete written statement will be included in the hearing record.

Mr. Walsh, you are our first witness on this panel. I ask that you proceed, and thank you for being here.

STATEMENTS OF WILLIAM WALSH, OF COUNSEL, PEPPER HAMILTON, LLP, REPRESENTING AMERICAN DENTAL ASSOCIATION; STEVEN BROWN, EXECUTIVE DIRECTOR, THE ENVIRONMENTAL COUNCIL OF THE STATES; ALEXIS CAIN, SCIENTIST, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5; AND JOHN REINDL, MERCURY POLICY PROJECT

STATEMENT OF WILLIAM WALSH

Mr. WALSH. I am William Walsh, outside counsel for the American Dental Association on amalgam wastewater issues. On behalf of the ADA's more than 157,000 member dentists, thank you, Mr. Chairman, and committee members for the opportunity to discuss the memorandum of understanding with EPA.

Prior to that MOU, the ADA met periodically with EPA urging a national voluntary program to reduce dental amalgam in wastewater and implement educational programs and take other actions. Even without amalgam separators, approximately 99 percent of the amalgam is captured either in the office by other parts of the

plumbing system or in the sewage treatment plant, which captures prior to discharge into the rivers, a substantial amount, 95 percent of the mercury that enters that is related to amalgam.

Now, let me make it clear, because my earlier testimony in the last hearing I was less clear. There is a large amount of mercury that goes into the sewage treatment plant. The ADA has done studies: 50 percent, and maybe more in some places, less in others, but because the POTW captures in the biosolids, what goes out into the streams is less than that. But separators will reduce that somewhat if implemented.

In 2007 EPA was studying whether the release of dental office wastewater into sewers warranted the issuance of an enforceable pre-treatment standard. The ADA filed public comments consistent with its earlier comments explaining why no such standard was necessary, in part because the dentists can and will act on their own. For example, the ADA had added separators to its best management practices in 2007. We asked, as we had in the past, to work with EPA on this issue. In response, EPA contacted us in early 2008 and proposed an MOU to promote the use of separators.

EPA's consultant had estimated that approximately 40 percent of the dentists in the United States were using separators, but I think the report made it clear that was an estimate for the purposes of the regulation and the information was uncertain.

The MOU required ADA to prepare a baseline report on the number of separators in use. Based on numerous data sources, including surveys of ADA members, we determined information concerning the number of separators and the percentage of separators being used, in essence tracking as of 2009 what the compliance of dentists were with separators. We looked both at States where there are mandatory requirements as well as voluntary requirements.

Unfortunately, as we pointed out to EPA and the National Association of Clean Water Agencies, the data is somewhat contradictory and incomplete, and there wasn't a clear answer from the various surveys and various sources of information, and that more information may be necessary from the manufacturers, and EPA decided to seek additional data from manufacturers.

Without a baseline, developing a progress goal has been difficult. Nevertheless, the parties have agreed upon, and I should say this agreement has come after some of the other testimony that has been submitted here today, so the testimony of ECOS, for example, talks about a goal not being set.

We have reached a goal that in the first 12 months after setting the goal, that 20 percent of the dentists in jurisdictions where there is no mandatory requirement would have separators. The next 12 months after that, an additional 25 percent would have to meet, be shown through surveys with the separator manufacturers, to meet the requirement of having a separator, and every 12-month period after that another 25 percent, until 100 percent is met or some plateau is reached.

These are absolute numbers. If the baseline is determined to be 20 percent, our goal is 40 percent in 12 months and 65 percent in 2 years.

We are only counting for the purpose of compliance those dentists in voluntary areas, although obviously a number of dentists in the States where there are mandatory requirements would be additional number of separators.

This voluntary approach should be successful, in our opinion, because it is directed at dentists as health professionals. We think that is important in communicating a voluntary program from a familiar source, the ADA, using all of its communication outlets, and the same communication from EPA and from the Sewer Authority Association. It is based on the lessons learned from previous unsuccessful voluntary efforts, and there is no question that some of the earlier efforts were not successful.

It recognizes that if voluntary efforts fail, nothing in the MOU, in fact, the MOU specifically provides EPA, the States, or the local agencies the authority now to continue to go ahead, regardless of what is happening with the MOU, with any mandatory program that they so decide. That was deliberately put in there and agreed upon by all the parties from the beginning so we would not compromise the authority of the States or local authorities or EPA, if EPA in its discretion decided that it was insufficient.

Mr. KUCINICH. Mr. Walsh, I am going to ask you if you could summarize, because I asked the witnesses to go for five. I have let you go for a little bit more than that.

Mr. WALSH. I have concluded. We have sought to do our fair share, and that is what we are trying to do.

Thank you, sir.

[The prepared statement of Mr. Walsh follows:]

ADA American Dental Association®

STATEMENT OF

WILLIAM J. WALSH

ON BEHALF OF THE

AMERICAN DENTAL ASSOCIATION
TO THE

SUBCOMMITTEE ON DOMESTIC POLICY
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
UNITED STATES HOUSE OF REPRESENTATIVES

ON

"ASSESSING EPA'S EFFORTS TO MEASURE AND REDUCE MERCURY POLLUTION FROM DENTIST OFFICES"

MAY 26, 2010

Washington Office: 1111 14th Street NW Washington DC 20005 (202) 898-2400

The American Dental Association (ADA) is the world's largest and oldest dental association, representing more than 157,000 dentists nationwide. For nearly 150 years, the ADA has actively sought to promote the oral health of the public and promote the development of scientifically accurate information. Based on our understanding of the subject of this hearing, the ADA is pleased to comment on the memorandum of understanding ("MOU") with the Environmental Protection Agency (EPA) and the National Association of Clean Water Agencies (NACWA).

The ADA is proud of its efforts on behalf of the environment, predating the MOU. For example, the ADA has issued and continually updated as appropriate its "best management practices" (BMPs) for handling waste amalgam. These BMPs call for the use of standard control methods, recycling of collected amalgam, and **the use of amalgam separators.**

Even without separators, dentists capture in their offices approximately 78 percent of the waste amalgam, with almost all of the remaining 22 percent captured by water treatment plants before the wastewater is discharged to surface water. In other words, approximately 99 percent of the amalgam is captured in the office or by the sewage treatment plant prior to discharge into rivers, streams or lakes. Adding a separator allows the capture of that additional amalgam waste in the dental office, where it can more easily be recycled, instead of at the wastewater treatment plant.

In 2001, the ADA first met with EPA to propose developing a voluntary program. The ADA continued meeting with EPA thereafter, through several changes in the Office of Water. In 2007, the ADA added separators to its best management practices or BMPs. At that time, EPA was studying whether the release of dental office wastewater into sewers warranted the issuance of an enforceable pretreatment standard. The ADA filed public comments explaining that no such standard was necessary, in part because dentists can and will act on their own. For example, the ADA added separators to its BMPs. We asked, as we had in the

past, to work with EPA on this issue. EPA contacted us in early 2008 and proposed an MOU to promote the use of separators.

EPA's consultant had estimated that approximately 40 percent of the dentists in the United States were using separators. The MOU required the ADA to prepare a baseline report by the end of June 2009 on the number of separators currently in use. Based on numerous data sources (including the ADA web based and mail-in dentist surveys, EPA data and outreach to separator manufacturers), the ADA produced an estimate. Unfortunately, as we have pointed out to EPA and NACWA, the underlying data is contradictory and incomplete. Recognizing this, and with the support of the ADA, EPA decided to directly seek data from separator manufacturers to develop a firmer estimate. That work is well underway.

The MOU also called on all the parties to agree upon a progress goal. Without a baseline, this has been difficult, but the parties have agreed on a very aggressive goal of 20 percent gain in separator use within 12 months of the acceptance of the goal in the MOU, and 25 percent gain every 12 months thereafter. These are absolute numbers; if the baseline is determined to be 20 percent, our goal is 40 percent in twelve months and 65 percent in two years. We are <u>only</u> counting voluntary adoption of separators. In other words, separators added as part of a mandate are not counted towards meeting this goal.

This is very ambitious, but we are committed to it. The ADA has devoted substantial time and resources to promoting its best management practices. For example, the ADA has reached out to its members directly, through its newspaper, its website and in posters and brochures. Last year, its volunteer leaders on the ADA Council on Dental Practice published an opinion editorial, extolling the MOU and urging dentists throughout the country to install separators.

The ADA has also reached out to state dental societies, explaining the value of separators and offering its resources to states wishing to pursue a program on its

own. Dental societies havwe responded. States as diverse as Missouri, Montana, New Mexico, Ohio and Michigan are all pursuing their own initiatives to promote separator use.

Several factors favor such ongoing efforts:

First, dentists, as health professionals, will respond to scientific evidence and cooperative approaches. Some early efforts were not successful because of lack of understanding on both sides. But efforts under the MOU are different: the ADA is engaged and the partnership includes EPA and wastewater treatment officials.

Second, a voluntary-based approach makes a great deal of sense where dentistry contributes less than one percent of the total mercury found in our lakes and streams--0.4 percent of the mercury in surface waters is attributable to dentistry (i.e., other sources, primarily air emissions, including those from outside of the U.S. make up the vast majority of mercury entering surface water in the U.S.). Moreover, the use of amalgam continues to shrink, primarily for cosmetic reasons but also due to advancements in other materials. Some estimate that it comprises less than a third of the market now. In other words, this is an issue shrinking on its own.

Third, mandating separators would require a costly inspection and enforcement program, given that some 100,000 dental offices would need to be regulated. The approach under the MOU avoids this cost

Of course, nothing precludes state or local agencies, or EPA, from enacting a mandatory program should voluntary efforts fail. In other words, the best approach is to allow the voluntary efforts of organized dentistry to move forward, avoid excessive government regulation and minimize the costs to the taxpayers. If these efforts fail, all options remain open.

In closing, dentists have already taken action to reduce their already minimal contribution to environmental mercury by following BMPS. They bring to these efforts the same commitment they bring to providing the best possible oral health care to the American people.

Dentistry is proud of all of its efforts to protect the environment, just as we have always protected the health and well being of our patients. We pledge to continue our efforts. We appreciate the opportunity to share these views with you.

Mr. KUCINICH. Thank you.
Mr. Brown.

STATEMENT OF STEVEN BROWN

Mr. BROWN. I am here representing the Environmental Council of States, you have already explained what that is, and also the Quicksilver Caucus, which is a group of associations of State environmental officials that are interested in mercury.

There are three primary things I want to talk with you today, and fortunately the committee has already added several of them extensively, so I am going to cut my remarks somewhat shorter.

First is I want to outline some of the State experiences with voluntary and mandatory programs in States on this topic. Second, I want to discuss the MOU, which we have been discussing extensively today. And third, I want to tell you something about the approach that ECOS and the Quicksilver Caucus are recommending to EPA to address this topic.

As you know, Quicksilver Caucus research has looked at five State programs, and the short version of that is that we found in every case, when it became mandatory, as the graph you showed earlier demonstrated, the results went up considerably. And consequently also, I might add, the amount of mercury in the sewage treatment sludge went down.

Now, I want to say something about the testimony Mr. Walsh made regarding the fate of mercury in sewage treatment systems when it leaves a dental office or any other source, for that matter. It doesn't mysteriously disappear. That mercury that is not in the water effluent is in the biosolids, and from there it is either applied to land, it is incinerated and goes out the stack, or it is buried in a landfill. Landfills have a lifetime, but they don't last forever. And so the fate of that mercury is to be put back into the environment, regardless, sooner or later, when it goes into the POTW.

Coming back to my second point, the MOU, as you have already stated, we were not involved in the development of the MOU. It was a surprise to us when it came out. If we were asked to be on it, we would say yes immediately, and we hope that happens because we think the States obviously have a lot to contribute on this subject matter. States are ahead of EPA on removing mercury from dental facilities.

I would say, though, lest I leave a bad impression about our relationship with EPA, we do have a good relationship with EPA on other mercury issues, for example, the State/EPA mercury dialog kick-off meeting that is going to happen in June. Ms. Stoner mentioned that. It is just that we can't say we had the same relationship on this particular topic.

The third point I wanted to make is a resolution that ECOS passed at its spring meeting only a couple of months ago. I think that one is significant because the States recognize that amalgam can be the single largest source of mercury for a POTW, and that it is a water discharge concern and a source of pollution when sludge is incinerated or land applied. And this is the significant part, because in these days when State budgets are down and we are concerned about the cost to implement EPA rules, that issue was not brought up on this topic. In fact, our members agreed that

EPA needs to include dental facilities under the health care sector for rulemaking in its effluent guidelines program plan and require the use of best management practices to comply with that rule.

In March just recently the Quicksilver Caucus sent a letter to EPA with the same recommendations, and we pointed out that the BMP's recommendations included the installation and use of separators. There doesn't seem to be much dispute about that as a best management practice. Even ADA, as they have said, have recommended that.

So our two-pronged strategy acknowledges the value of voluntary programs. They do have some value, and that is that EPA should amend the MOU to include the role of a decisionmaking to include the States, and EPA should set and implement ambitious voluntary reduction goals throughout the MOU, and perhaps they have done that now. That will hold us to some results during the period of time in which a rule becomes final, and that can take quite a long time, as you probably know.

But eventually EPA should require the dental facilities to implement BMPs, and they should install that and use separators, and that rulemaking should come out this year, in our opinion.

Thank you very much.

[The prepared statement of Mr. Brown follows:]

The Environmental Council of the States (ECOS) Testimony before the House Oversight and Government Reform Committee Domestic Policy Subcommittee

On Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices

Presented by
R. Steven Brown, Executive Director
Environmental Council of the States
444 North Capitol St, NW, Suite 445
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202-624-3667
May 26, 2010

Introduction

Thank you, Mr. Chairman, for providing the Environmental Council of the States (ECOS)[1] the opportunity to present testimony on the issue of dental amalgam mercury. My name is Steven Brown, and I am Executive Director of our national association, ECOS. Today I am speaking on behalf of the environmental agencies in our 50 member states and territories.

Background

The Environmental Council of the States is the national non-partisan, non-profit association of state and territorial environmental commissioners. Each state and territory has some agency, known by different names in different states that corresponds to the United States Environmental Protection Agency (EPA). Our members are the officials who manage and direct the environmental agencies in the states and territories. They are the state leaders responsible for making certain our nation's air, water and natural resources are clean, safe and protected. States are responsible for managing federally delegated environmental programs; instituting environmental enforcement actions; collecting monitoring data; and managing state lands and resources; and other environmental matters in which states have become national leaders.

ECOS Focus on Reducing Mercury from Dental Amalgam

Your subcommittee has expressed an interest in how mercury pollution from dental offices may be reduced. We share this desire and applaud your interest in it. This testimony will outline the history of recent efforts, and our recommendations for future action.

[1] More information about ECOS is at: http://www.ecos.org/

A priority of ECOS is to investigate and pursue reductions in mercury pollution. Mercury is a known neurotoxin that is particularly dangerous to children and the unborn fetus. In 2001, ECOS teamed up with leaders from five (5) other state environmental associations to form the Quicksilver Caucus (QSC)[2]. Members include the Association of State Drinking Water Administrators (ASDWA), the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), ECOS, the National Association of Clean Air Agencies (NACAA) and the National Pollution Prevention Roundtable (NPPR). Together, we are working with EPA to find and implement new ways of reducing mercury pollution. QSC is supported in part with a grant from EPA. QSC performs research and provides recommendations for ECOS consideration related to mercury issues.

State and Local Amalgam Mercury Programs

In April 2008, QSC released the *Dental Mercury Amalgam Waste Management White Paper* (white paper)[3]. The white paper examined issues related to the installation and use of amalgam separators, the common features of dental amalgam programs, lessons learned from existing local and state programs, and recommendations for future action.

In the white paper, QSC writes:

> When considering whether separator installation should be voluntary or mandatory, program managers should consider information published in the Fall 2007 edition of the *ADA Professional Product Review* where it was reported that a 'survey of [ADA Clinical Evaluator Panel] members shows that relatively few panel members own an amalgam separator or plan to purchase one.'

ECOS is aware that at least eleven (11) states and numerous local authorities have established mandatory amalgam management programs that require dentists to install amalgam separators. In May 2008, QSC released *Case Studies of Five Dental Mercury Amalgam Separator Programs*[4]. The case studies profiled five (5) dental mercury amalgam programs run by the following state and local authorities:

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[2] More information about the Quicksilver Caucus is at:
http://www.ecos.org/section/committees/cross_media/quick_silver

[3] Dental Mercury Amalgam Waste Management White Paper. Environmental Council of the States/ Quicksilver Caucus. April 2008. ECOS 08.002. Available at:
http://www.ecos.org/files/3148_image_Corrected_Final_Dental_Amalgam_White_Paper_April_2008.pdf

[4] Case Studies of Five Dental Amalgam Separator Programs. Environmental Council of the States/ Quicksilver Caucus. May 2008. ECOS 08.003. Available at:
http://www.ecos.org/files/3193_file_case_studies_dental_amalgam_paper_052808.pdf

- Maine State Department of Environmental Protection
- Massachusetts State Department of Environmental Protection
- Metropolitan Council Environmental Services (MCES) (Minneapolis, Minnesota region)
- New York State Department of Environmental Conservation
- Washington State Department of Ecology (with additional information provided about King County and other local programs within the State of Washington)

In the white paper, QSC compared the effectiveness of voluntary dental amalgam mercury management programs to those with mandatory components. All of the programs examined initially began as voluntary initiatives with Memoranda of Understanding (MOUs) with state dental associations, or as a result of regional initiatives that included recommendations for the development of mandatory programs.

In its reports, QSC found that in many jurisdictions, dental amalgam separator installation rates were low unless there was a mandatory component. For example, in August 2003, the Washington State Department of Ecology (Ecology) initially negotiated an MOU with the Washington State Dental Association to give dentists a two-year grace period to install amalgam separators and implement other best management practices. Under the voluntary program, only 40% of dentists in Washington installed separators by April 2005. This prompted Ecology not to extend the MOU and to require separator installation under existing state hazardous waste regulations by September 2005. By April 2006, Ecology documented a 95% separator installation rate at dental offices.

Similarly, in Massachusetts, although a 2001 MOU between the Massachusetts Department of Environmental Protection and the Massachusetts Dental Society helped to raise awareness about amalgam separators, their use by dentists only increased modestly until a two-phase mandatory program evolved with incentives for early adopters. Regulations requiring installation of separators were adopted in April 2006. In 2008, Massachusetts estimated that greater than 95% of dental offices generating amalgam-containing wastewater were using compliant amalgam separators.

In the Minneapolis region, MCES saw comparable low separator installation rates via a 2003 voluntary program until the authority told dentists they would be required to obtain a discharge permit, pay permit fees, conduct sampling, and submit reports to MCES if they did not install a separator. After dentists were told that, separator installation rates in the MCES jurisdiction increased to 99% by 2008. MCES reports that the mercury levels in treatment works influent have been reduced by approximately one half since the program began.

Memorandum of Understanding on Reducing Dental Amalgam Discharges

On Dec. 16, 2008, the Quicksilver Caucus sent EPA a letter[5] urging the agency to work with states to develop a national strategy for managing mercury from dental amalgam. In particular, the letter urged that:

> [we] would like to build upon the current interest and momentum on these issues and commence discussions with a broad base of stakeholders to develop a nationwide program with a goal of substantially reducing releases of mercury to the environment from dental amalgam mercury. The stakeholders would include but certainly would not be limited to the American Dental Association, USEPA, states, publicly operated treatment works (POTWs) and dental supply manufacturers.

On December 29, 2008, EPA's outgoing Assistant Administrator for the Office of Water, Benjamin Grumbles, signed a memorandum of understanding (MOU)[6] with the American Dental Association (ADA) and the National Association of Clean Water Agencies (NACWA). Neither ECOS nor the Quicksilver Caucus were involved with development of the MOU. ECOS and Quicksilver Caucus members were not aware that EPA was working to develop such an agreement. States were not asked to be a party to the MOU.

On January 15, 2009, Mr. Grumbles sent Quicksilver Caucus a response[7] to its December 16 letter. Mr. Grumble's response mentions the MOU as EPA's chosen path forward and invites the QSC to work with EPA to encourage use of best management practices.

On January 22, 2009, QSC members and EPA's Office of Water held a conference call to discuss the issue of amalgam mercury. During the discussion, QSC members expressed that states are not pleased with their role, or lack thereof, in implementing the MOU. QSC again requested that states be included as parties to the MOU because states are co-regulators with EPA for implementing the Clean Water Act and other related federal environmental statutes. EPA replied that they would take QSC's request to the other MOU parties and get back to QSC with a reply.

In a subsequent meeting with QSC, EPA eventually agreed to keep QSC informed of developments regarding implementation of the MOU, and to consult with the states prior to any major actions being undertaken. However, EPA reserved the role of decision-making regarding MOU next steps to EPA, ADA and NACWA.

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[5] Letter from Quicksilver Caucus to U.S. EPA. Dec. 16, 2008. Available at: http://www.ecos.org/files/3406_file_QSC_Letter_to_US_EPA_on_Dental_Amalgam_12_16_08.pdf

[6] Memorandum of Understanding on Reducing Dental Amalgam Discharges. Dec. 29, 2008. Available at: http://www.ecos.org/files/3425_file_USEPA_ADA_NACWA_MOU_on_Amalgam_Mercury.pdf

[7] Letter from U.S. EPA to Quicksilver Caucus. Jan. 15, 2009. Available at: http://www.ecos.org/files/3424_file_US_EPA_Reply_to_QSC_on_Dental_Amalgam_1_15_09.pdf

On January 15, 2010, Rep. Dennis Kucinich and Rep. Diane Watson sent a request for information[8] to EPA regarding its amalgam mercury reduction efforts. In its response[9] to Rep. Kucinich on April 5, 2010, EPA stated:

> We also expanded our coordination of stakeholders to include the Quicksilver Caucus, a coalition of state environmental associations who are concerned with mercury discharges, and also with the Mercury Policy Project, which is an NGO [non-governmental organization] focused on reducing mercury from all sources. As all the parties continue to coordinate next steps, we look forward to narrowing the performance goals and agreeing on best approaches to encourage installation of separators.

QSC feels that the above statement makes it appear that states are active participants in deciding upon next steps under the MOU. However, states' involvement in the MOU has been limited to conference calls to discuss the status of the MOU. EPA periodically shares information with QSC regarding discussions between the MOU parties, and EPA periodically solicits the states' opinions on aspects of the MOU, but states have not been allowed to participate in the decision-making process. EPA has not shared decision-making responsibility for setting of MOU goals and implementation plans with the states. Also, EPA and ADA have been reluctant to share information with states regarding ADA's outreach to its membership for encouraging pollution reduction.

EPA's April 5, 2010 letter to Rep. Kucinich says that EPA "expanded... coordination of stakeholders to include... the Mercury Policy Project... an NGO focused on reducing mercury." Michael Bender, Executive Director of the Mercury Policy Project, has told QSC that his organization's repeated attempts to gain a stakeholder role in the MOU have been repeatedly rejected by EPA.

In EPA's response to Rep. Kucinich's letter, EPA states that:

> Early in 2009, the MOU parties agreed on a method for estimating the baseline and the data to be collected and analyzed. In June 2009, EPA received the baseline report, which included highlights of ADA's survey results on installation rates of separators across the country.

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[8] Letter from U.S. House of Representatives Committee on Oversight and Government Reform to U.S. EPA. Jan. 15, 2010. Available here: http://www.ecos.org/files/4092_file_01_15_2010_letter_from_Kucinich_to_Jackson_about_dental_amalgam.pdf

[9] Letter from U.S. EPA Office of Congressional and Intergovernmental Relations to Dennis J. Kucinich, Chair, U.S. House of Representatives Committee on Oversight and Government Reform Subcommittee on Domestic Policy. April 5, 2010. http://www.ecos.org/files/4093_file_EPA_letter_to_Dom_Pol_Chairman_Kucinich_4_5_10.pdf

QSC has asked EPA to inform QSC whether and when a baseline is set. EPA has told QSC that no baseline has been set yet. Under the MOU, a baseline was supposed to be set by July 2009, and reduction goals were to be set by January 2010. Last month, EPA officials told QSC members that goals have still not yet been agreed upon by the MOU parties. EPA has told QSC that ADA has been reluctant to set goals.

Several months ago, EPA asked separator manufacturers whether they could supply sales data. Most manufacturers said they could provide such data. Subsequently, EPA has asked QSC what data it would like to see reported from the manufacturers. QSC told EPA that it would like to see sales data according to the state in which purchaser is located/ place of installation; county; township/ city; separator brand and model name; month and year purchased; removal efficiency rating; recommended frequency of maintenance and replacement of separator cartridges; the last time service was performed; and whether the facility is connected to a public sewerage system. Collection of such data can help inform the setting of baselines and goals, and for successfully implementing the MOU.

ECOS Findings and Recommendations

ECOS and QSC do not necessarily disapprove of the voluntary effort represented by the MOU. Voluntary efforts can sometimes be effective and can provide momentum and better inform further mandatory programs. However, the MOU parties have not yet agreed upon reduction goals, as the MOU required by January 2010. EPA officials have told QSC members that ADA has been reluctant to set goals, which has stalled the goal-setting and implementation process.

On March 24, 2010 – troubled by the lack of progress with EPA's MOU – the Environmental Council of the States passed a new policy resolution[10]. In the resolution, ECOS says:

> WHEREAS, mercury from dental amalgam can be the single largest source of mercury for publicly owned treatment works and is a water quality discharge concern and a source of air pollution when sludge is incinerated or land applied… NOW, THEREFORE, BE IT RESOLVED THAT… ECOS urges U.S. EPA to include dental facilities under the Health Care Sector for rulemaking in its Effluent Guidelines Program Plan and require adoption of best management practices that reduce mercury discharges to protect the environment (emphasis added).

[10] Resolution # 07-1 "Implementing a National Vision for Mercury." Environmental Council of the States. Revised March 24, 2010. Available at: http://www.ecos.org/files/4026_file_Resolution_07_1_2010_version.doc

On March 31, 2010, the Quicksilver Caucus sent a letter[11] to EPA commenting on its proposed effluent guidelines. In the letter, QSC stated that:

> QSC members believe that US EPA should pursue effluent guidelines rulemaking for dental facilities that focus on BMP [best management practice] use and amalgam separators in the sector. We do not agree with the US EPA decision in 2008, when it did not identify the dental sector for effluent guidelines rulemaking... In a review of various dental mercury amalgam programs around the US, QSC findings indicate that voluntary efforts to reduce hazards associated with dental mercury amalgam have not resulted in reductions by a majority of dental offices... POTWs in the U.S. have determined that dental clinics contribute approximately half of the mercury loadings to wastewater treatment plants. Therefore, dental clinics are a significant source... QSC strongly recommends that US EPA pursue effluent guidelines rulemaking for dental facilities. Any federal action taken needs to be sure to protect the ability of the states to go beyond federal regulations to continue to demonstrate what is possible and develop approaches to achieve continual improvement.

"BMPs" could be interpreted to mean many different things, but QSC is very explicit about what BMPs are recommended, and these include installation and use of amalgam separators. It is worth noting that ADA itself has recommended installation and use of amalgam separators in its October 2007 Best Management Practices[12].

Key Conclusions

QSC members have expressed support for a two-pronged approach to resolving the issue:

First, EPA should set and implement voluntary reduction goals via the MOU. EPA should also extend the role of MOU decision-making stakeholders to include the states (this will involve the states in the decision-making process, rather than relegate the states to merely receiving periodic reports regarding MOU progress). The QSC recommends goals whereby at least 20% of dentists in areas where mandatory programs do not already exist will install and use separators within one year of goals being set. By year two, 25% of such dentists will install and use separators; by year three, 50%; by year four, 75%, and by year five, 100%. An even simpler, and more ideal approach, would involve setting goals whereby 100% of all dentists (regardless of whether they are within an area where a mandatory program already exists) install and use separators within five years.

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[11] Letter from Quicksilver Caucus to U.S. EPA. March 31, 2010. Available at: http://ecos.org/files/4062_file_QSC_Letter_to_EPA_on_Effluent_Guidelines_FINAL_Sent.pdf

[12] Best Management Practices for Amalgam Waste. American Dental Association. Oct. 2007. Accessed May 20, 2010. Available at: http://www.ada.org/sections/publicResources/pdfs/topics_amalgamwaste.pdf

The second key approach is that EPA should require dental facilities nationwide to implement BMPs (including separator installation and use) through an effluent guidelines rulemaking this year. Implementation of the rulemaking would take at least a few years. In the meantime, progress made via the MOU would help inform the success of the mandatory program.

The second approach (the mandatory rulemaking) is the more important of the two methods, as evidenced by explicit support from ECOS resolutions for this action.

Mr. KUCINICH. Mr. Cain, you may proceed.

STATEMENT OF ALEXIS CAIN

Mr. CAIN. I appreciate the opportunity to speak to the subcommittee today about releases of mercury resulting from the use of dental amalgam. In 2007, some colleagues and I published an article in the Journal of Industrial Ecology on the life cycle environmental releases resulting from the use of a variety of mercury-containing products including dental amalgam. This paper was based on a mass balance model developed by Barr Engineering, with help from the environmental agencies of Minnesota, Wisconsin, and Dane County, Wisconsin, along with the U.S. EPA.

The model estimated the life cycle flow of mercury and products from production through use and disposal, using distribution factors to estimate how much mercury would enter various disposal pathways, and using release factors to estimate how much of this mercury would be released to air, land, and water at each of these stages. I will focus my testimony on the air and water releases.

We estimated, based on the model, that use of dental amalgam was responsible for approximately 4½ metric tons of mercury release to the atmosphere in 2005. There is considerable uncertainty around this estimate, and all of the estimates that I will discuss today.

Based on our estimates, dental amalgam is certainly not the largest source of mercury to the atmosphere, but it is, nonetheless, a significant source, accounting for roughly 4 to 5 percent of total emissions.

Emissions from human cremation that is the result of the presence of dental amalgam fillings in corpses accounted for approximately half of the emissions related to dental mercury. Other significant air emissions pathways included volatilization of mercury within the dental office, itself, and disposal of sewage sludge, both from incineration and land application. Dental office mercury enters sewage sludge because of discharges to sanitary sewers from dental wastewater systems.

We also estimated that dental amalgam was responsible for approximately 0.4 metric tons of mercury releases to water in 2005. We estimated using the model that implementation of best practices, including amalgam separators, at all dental offices would reduce water discharges by approximately 0.3 metric tons, and air emissions by approximately one metric ton through reducing the mercury content of sewage sludge which is incinerated or land applied.

You may wonder what the value of this type of modeling is. Why use a model to estimate releases instead of measuring these releases directly? I think that there are several reasons that a model can be useful. First, a model can provide estimates, however rough, of sources that are difficult to measure directly, such as releases from the land application of sewage sludge.

Second, a model can generate estimates of releases caused by particular products. Direct measurement, for instance, can give us an estimate of how much mercury is emitted by incinerators, but it requires a model to estimate how much of those emissions result from the disposal of a particular type of product.

Third, a model allows us to predict the impact of various management options. For instance, to estimate the potential decline in mercury releases resulting from installation of amalgam separators.

Finally, a model provides a check on emissions measurements and indicates where additional measurement may be warranted.

I would like to focus now on mercury emissions from crematories. In the case of these releases, EPA's estimate is that total nationwide emissions were 0.3 tons in 2005, based on extrapolating from emissions measurements. The model, however, estimates that these emissions are more than two tons per year, based on data on the average mercury content of fillings, the number of fillings that an average person has at the end of life, and the number of corpses that are cremated.

As a general rule, there are good reasons to prioritize measured results over an output from a model; however, I believe that in this case the model's results are more reliable. U.S. EPA's estimates are extrapolated from a small number of emissions tests at a single facility, which could generate a misleading result, given that we would expect releases per cremation to vary greatly, depending on the number of dental amalgam fillings in the particular corpse being cremated at the time that the measurements were being made.

The hypothesis that emissions inventories may under-state the significance of mercury emissions from crematories is supported by evidence from emissions testing in Europe, where there has been more testing done than has been the case in the United States. For instance, the National Emissions Inventory in the United Kingdom uses an emissions factor of three grams per cremation, while Norway and Sweden each use an emissions factor of five grams per cremation. U.S. EPA's emissions inventory implies emissions of 0.4 grams per cremation, far lower than the likely range suggested by the European evidence. The life cycle flow model implies emissions of 2.7 grams per cremation, which is more consistent with the European evidence.

Given all the uncertainties, I certainly do not claim that the mercury flow model has produced a correct estimate of mercury emissions from human cremation; however, I believe that the evidence is strong that EPA's estimate understates emissions from this source category. I believe that an appropriate evaluation of all the available evidence would lead to an increase in EPA's estimate of mercury emissions from crematoria.

[The prepared statement of Mr. Cain follows:]

Testimony of Alexis Cain[1]
Before the Domestic Policy Subcommittee of the Oversight and Government Reform Committee
Estimating Mercury Releases Resulting from Use of Dental Amalgam

Wednesday, May 26, 2010

I appreciate the opportunity to speak to the subcommittee today about lifecycle releases of mercury resulting from the use of dental amalgam. In 2007, I, along with colleagues from Barr Engineering, the Wisconsin Department of Natural Resources, and Dane County Wisconsin's Recycling Division, published an article in the *Journal of Industrial Ecology* on the lifecycle environmental releases resulting from the use of a variety of mercury-containing products, including dental amalgam, along with lamps, bulk mercury, switches and relays, and measurement and control devices.[2] This paper was based on a mass balance model developed by Barr Engineering with funding provided by the Minnesota Pollution Control Agency and the U.S. Environmental Protection Agency. This model estimated the lifecycle flow of mercury in products from production through use and disposal, using "distribution factors" to estimate how much mercury would enter various disposal pathways, and using "release factors" to estimate how much mercury would be released to air, land and water at each of these stages.

Mercury Releases from the Dental Amalgam Lifecycle

We estimated, based on the mercury flow model, that use of dental amalgam was responsible for 4.5 metric tons of mercury releases to the atmosphere in 2005. For context, the Environmental Protection Agency estimates that total mercury emissions from all sources totaled approximately 100 metric tons in 2005. Based on our estimates, dental amalgam is certainly not the largest source of mercury to the atmosphere, but it is nonetheless a significant source accounting for roughly four to five percent of total emissions. Emissions from human cremation, as the result of the presence of dental amalgam fillings in corpses, accounted for approximately half of these emissions. It is likely that these emissions will increase over the next decade, given that the number of cremations is projected to increase and that there is a trend towards increased retention of teeth (and therefore of fillings) until the end of life as the result of improved dental care. Other significant air emissions pathways included volatilization of mercury within the dental office (approximately 0.7 metric tons) and disposal of sewage sludge, both from incineration (approximately 0.5 metric tons) and land application (approximately 0.3 metric tons). Additional emissions are caused by other pathways such as exhalation of mercury-containing breath from people who have amalgam fillings and releases from dental waste incinerated as the result of improper disposal.

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[1] Environmental Scientist, U.S. Environmental Protection Agency, Region 5, Office of Air and Radiation, testifying as a private citizen.

[2] Cain, A., Disch, S., Twarski, C., Reindl, J.& Case, C.R. (2007). Substance flow analysis of mercury intentionally used in products in the United States. *Journal of Industrial Ecology, 11*(3).

There is considerable uncertainty around all of these estimates, particularly the estimates of air releases from land-applied sewage sludge[3] and from volatilization of mercury in the dental office.[4]

We also estimated that dental amalgam was responsible for 0.4 metric tons of mercury releases to water in 2005. These results are consistent with a study by the National Association of Clean Water Agencies that found that dental offices create the largest identifiable mercury inputs to sanitary sewers.[5] It is also consistent with a study, published in *Air Water and Soil Pollution* in 2005, which found that dental offices discharge 5.9 metric tons of mercury annually to sanitary sewers, of which 0.4 tons is released to water, with the remainder ending up in sewage sludge.[6] It is likely that these releases have been reduced since 2005, as more dental offices have installed separators and as use of amalgam has decreased. We estimated, using the model, that implementation of best practices, including amalgam separators, at all dental offices would reduce water discharges by 0.3 metric tons and air emissions by 0.9 metric tons (through reducing the mercury content of sewage sludge).[7]

Finally, we estimated that dental amalgam was responsible for 28 metric tons of mercury disposal to land in 2005. The disposition of most of this mercury followed three pathways: burial of corpses with dental amalgam fillings, landfilling of mercury-containing wastes, and land application of sewage sludge.

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[3] The Mercury Flow Model assumes 10 percent volatilization of mercury from land-applied sewage sludge. To a large extent, the appropriate factor depends on the time period of interest. We would expect most of the mercury in land-applied sewage sludge to volatilized on a very long time scale (centuries), but a much smaller amount to volatilize within a year of application. Carpi, A., Lindberg, S.E. (1997) "The Sunlight Mediated Emission of Elemental Mercury from Soil Amended with Municipal Sewage Sludge," Environmental Science and Technology 31(7): 2085-2091.

[4] The Mercury Flow Model estimates for air emissions from dental offices are based on studies of mercury vapor concentrations in air exhausted by dental office vacuum units. Rubin, Paul G., Yu, Ming-Ho. Mercury Vapor in Amalgam Waste Discharged from Dental Office Vacuum Units. July/August 1996. *Archives of Environmental Health* 51: 335-337. More recent research has found similar mercury vapor concentrations. M.E. Stone, M.E. Cohen and B.A. Debban. 2007. Mercury vapor levels in exhaust air from dental vacuum systems, *Dental Materials* 23: 527–532. However, estimates of air flow from dental office vacuum systems are highly uncertain.

[5] Association of Metropolitan Sewerage Agencies. 2002. *Evaluation of the Effectiveness of Publicly Owned Treatment Works (POTW) Mercury Pollution Prevention/Minimization Programs.* Washington, DC: National Association of Clean Water Agencies.

[6] Vandeven JA, Mcginnis SK. 2005. An Assessment of Mercury in the Form of Amalgam in Dental Wastewater in the United States. *Water Air and Soil Pollution* 164: 349-366.

[7] A study of the impact of separator installation on mercury concentrations of influent, effluent, and sludge by the National Association of Clean Water Agencies supports the hypothesis that dental amalgam separator installation is associated with reduced mercury concentrations in influent and sludge at wastewater treatment plants. However, the study did not find a decrease in mercury concentrations in effluent associated with separator installation. According to NACWA, "This result could be due, in part, to the limited number of amalgam separator installations occurring at the POTWs with generally lower effluent mercury concentrations at the study's outset." National Association of Clean Water Agencies. January 2008. *An Examination of Mercury Levels at Clean Water Agencies. 2003-2006.*

Modeled versus Measured Releases

You may wonder what the value of this type of modeling is. Why use a model to estimate releases instead of measuring these releases directly? I think that there are several reasons that this type of exercise can be useful. First, a model can provide estimates, however rough, of sources that are difficult to measure directly, such as releases from land application of sewage sludge. Second, a model can generate estimates of releases caused by particular products. Direct measurement can give us an estimate of mercury emissions from incinerators, for instance, but a model can estimate how much of these emissions result from various products going into the waste stream. Third, a model allows us to predict the impact of various management options, for instance, to estimate the potential decline in mercury releases resulting from installation of amalgam separators at all dental offices. Fourth, when a model's results differ significantly from measured results, it could mean that the model is incorrect, or it could indicate problems with the measurements.

Mercury Emissions from Crematories

In the case of mercury releases from human cremation, EPA estimates that total nationwide emissions were 0.3 tons in 2005,[8] based on extrapolating from emissions measurements. The substance flow analysis estimates that these emissions are more than 2 tons per year. As a general rule, there are good reasons to prioritize measured results over an output from a model when developing an emissions inventory. However, I believe that, in this case, there are several reasons while the model may produce more reliable results than a small number of emissions tests. EPA's estimates are based on a small number of emissions tests at a single facility. Facilities can vary in their emissions rates based on differing technologies employed, and we would expect releases per cremation to vary greatly depending on whether the particular corpse being cremated at the time the measurements were being made had no dental amalgam fillings, a few fillings, or many fillings. Therefore, extrapolation from small number of tests could generate a misleading result.

The substance flow model estimates mercury inputs into crematories by utilizing data on the number of dental amalgam fillings an average person has at the end of life, the amount of mercury per filling, and the percentage of corpses that are cremated.[9] The primary uncertainty in this calculation is the number of dental amalgam fillings at the end of life. Based on the factors, we estimated roughly three metric tons of mercury input into crematoria. We then estimated that 75 percent of mercury input to crematories was emitted to the air, with 25 percent in ashes. I now believe, based on reviewing the information in an attached paper by John Reindl, that this

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[8] Conversation with Anne Pope, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, May 17, 2010.

[9] Approximately 800,000 cremations, with each corpse having 12 fillings, and each filling having 0.3 grams mercury = 2.9 metric tons mercury input to crematory. Assuming 75% of mercury input is emitted to air, 2.2 metric tons are emitted.

estimate was conservative, and that well above 75 percent of mercury inputs are released to the air.

The hypothesis that emissions inventories may understate the significance of mercury emissions from crematories is supported by evidence from emissions testing in Europe, where there has been more testing done than in the United States. John Reindl has reviewed this evidence (see attached) and found that there is a wide range of estimates, but that the most credible estimates are in a range of 2 to 4 grams per cremation. This estimate is based in part on emissions tests, in part based on studies that look at the number of fillings present in corpses that get cremated. The National Emissions Inventory for the United Kingdom uses an emissions factor of 3 grams per cremation, while Norway and Sweden each use a emissions factor of 5 grams per cremation. EPA's emissions inventory implies emissions of 0.4 grams/cremation, far lower than the likely range suggested by European evidence. The lifecycle flow model implies emissions of 2.7 grams/cremation.

Given all of the uncertainties, I certainly do not claim that the mercury flow model has produced a correct estimate of mercury emissions from human cremation. However, I believe that the evidence is strong that EPA's estimate understates emissions from this source category. I believe that an evaluation of all of the available evidence, or the development of new evidence through additional stack testing or studies of mercury inputs to crematoria, would lead to an increase in EPA's estimate of mercury emissions from cremation.

Mr. KUCINICH. I thank the gentleman.

Mr. Reindl? Thank you.

STATEMENT OF JOHN REINDL

Mr. REINDL. Thank you, Mr. Chairman and Congresswoman Watson. My name is John Reindl. I am a volunteer for the Mercury Policy Project, because, unfortunately, Mr. Bender became ill and has been unable to attend. I do have 13 slides that I would go through very quickly, since a lot of these topics have been covered already.

This chart, and it is repeated in the written testimony, shows the quantity of mercury used in 2004 and the quantity of mercury that is currently in products. As noted in the chart on the left, about 25 percent of all the mercury used in 2004 was, in fact, for dental amalgams. As stated before by your Chair, about 1,000 tons of mercury are currently in the teeth of people in the United States, by far the largest source of mercury in any products in the United States.

We believe that mercury from tooth fillings is one of the largest sources of mercury that is discharged from various sources to wastewater treatment plants. Since a typical amalgam has a lifetime of 10 to 20 years, we have to look not only to mercury that is currently being used, but the mercury that was used, because those fillings will come out approximately 15 years later, and, as has been noted before, mercury that escapes into the environment, regardless of what form it is, is going to be converted to methylmercury, which is going to buildup into fish and enter the human body.

We have gone over the memorandum of understanding several times before, so I will skip this slide and, in fact, the next slide talks about the memorandum of understanding even more, so I will skip that one, as well.

EPA testified that there were 12 States that have mandatory agreements. We were aware of 11 of them. Obviously, if 11 States or 12 States have agreements, 38 or 39 do not have agreements.

What we find is that, for a suitable best management practices program, these are the elements that need to be included. It needs to include the installation and proper management of amalgam separators, requiring the dentists to recycle their mercury and requiring reporting to verify compliance.

This chart will show the partial estimate of sales of mercury amalgam separators. The States in the white, which are the far right of those bar charts, shows those States without legislation or requirements, and the tall ones represent those States with legislation. Only 13 percent of amalgam separators have been sold in the non-regulated States, even though those are 38 to 39 States, three times the number of regulated States, the amount of amalgam separators is less than one-seventh of those otherwise sold.

Here is a comparison of the EPA's estimate of mercury releases from dental sources to the atmosphere compared to those represented by the Mercury Policy Project. As your Chair mentioned before, the estimates of the Mercury Policy Project are five to seven times larger than those estimates of EPA. And, as you can see from

the slide, there are several areas that EPA did not include any estimates whatsoever.

This shows a flow diagram that was originally developed by a Swedish chemical agency and was used actually as the basis for our mercury flow models throughout the United States.

My big focus, though, is going to be on cremation. This is the area that I have specialized in. As we see from this chart, and, again, it is in the written testimony, the number of cremations is expected to dramatically increase in the future. We believe that this is going to increase the amount of mercury that is emitted to the environment.

Additionally, what is happening is, because of improved dental care in this country, the dental community has really done a super job, and more people are having more of their teeth when they pass away, but in those teeth there are more dental restorations; that is, mercury fillings. Therefore, we are going to have an increase in mercury emissions for two reasons: one is increased number of cremations, and the second is more dental restorations.

This shows a bunch of numbers, which is kind of hard to see on the wall, but if you look in your testimony you will see that our estimate is that the amount of mercury will over double within the next 10 years as air emissions from cremations, because of the combined impact of more cremations and more dental restorations.

The last slide is a summary. There are seven to nine metric tons of mercury released to the environment per year. That is growing rapidly. We don't feel that the premise of the MOU was based on true facts. We believe EPA should establish effluent guidelines for dental offices. We believe that the dental air emissions data should be updated, especially for cremation. We believe that EPA should regulate mercury emissions from crematoria, and we believe that EPA should maintain a transparent, open process to include the non-governmental organizations.

Thank you.

[The prepared statement of Mr. Reindl follows:]

Testimony to the
Domestic Policy Subcommittee
of the
Oversight and Government Reform Committee

Hearing on:
"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices"

Presented by:

John Reindl

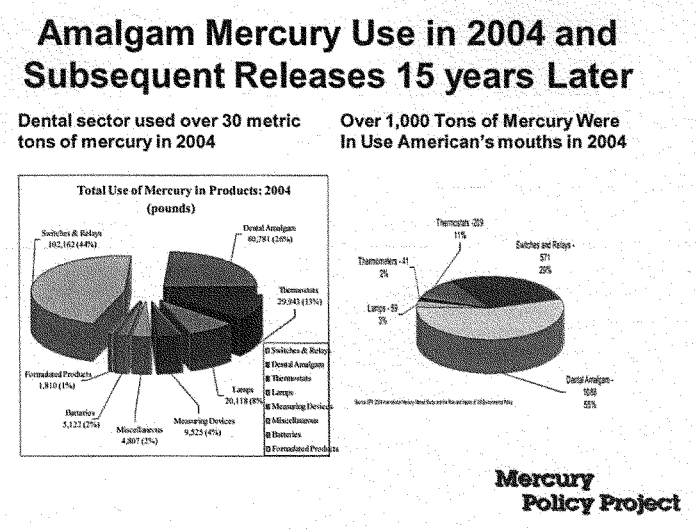
On behalf of
by Michael Bender, Director
Mercury Policy Project/Tides Center
www.mercurypolicy.org ~ mercurypolicy@aol.com
802.223.9000

Washington, DC
May 26, 2010

The Mercury Policy Project greatly appreciates the opportunity to testimony on *"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices."* The Mercury Policy Project (MPP) works to promote policies to eliminate mercury uses, reduce the export and trafficking of mercury, and significantly reduce mercury exposures at the local, national, and international levels. We strive to work harmoniously with other groups and individuals who have similar goals and interests.

Due to the dental sector's significant contribution of mercury into the environment, the Domestic Policy Subcommittee held hearings in November 2007 and July 2008 that the Mercury Policy Project testified at. During the hearing, testimony showed that dental offices are the largest polluter of mercury to municipal wastewater treatment plants, contributing 40% or more of the load.[i]

The dental sector is the second largest users of mercury, using over 30 tons of mercury in 2004, and also the largest current use in the United States.[ii] This mercury will subsequently be released 15 years later, since the average life of an amalgam is 10-20 years.[iii]



Dental mercury pollution subsequently contaminates our food. According to EPA, "When amalgam enters the water, microorganisms can change it into methylmercury, a highly toxic form that builds up in fish."[iv]

Since the July 2008 hearing, it's become clear that the December 2008 memorandum between the Environmental Protection Agency, the American Dental Association and the National Association of Clean Water Agencies to voluntarily address the issue of dental mercury

discharges[v] is unnecessarily allowing tons of dental mercury pollution into the environment each year. According to ADA's website, they had convinced EPA:

> "...that a national pretreatment standard for dental offices was not necessary because dentistry was already acting voluntarily to address environmental impacts from dental amalgam. The ADA pointed out support of its position that the use of amalgam separators is part of the ADA's Best Management Practices (BMP). The EPA agreed and concluded that a national standard was not warranted at that time. Following this, EPA proposed an agreement among EPA, ADA and National Association of Clean Water Agencies (NACWA) to further promote voluntary compliance with ADA's BMPs, including the use of amalgam separators."[vi]

As stated in the MOU, EPA "...did not identify...the dental sector...for rulemaking" because they have demonstrated "...significant progress through voluntary efforts" and were therefore "a lower priority for effluent guidelines, particularly where such reductions are achieved by a significant majority of dentists utilizing amalgam separators."

It was also used as EPA's rationale in its effluent guidelines for dental clinics n 2008.

> "EPA....did not identify the dental sector for an effluent guideline rulemaking because as EPA has found with other categories of dischargers, 'demonstrating significant progress through voluntary efforts' gives that category 'a lower priority for effluent guidelines or pretreatment standards revision, particularly when such reductions are achieved by a majority of individual facilities in the industry."[vii]

However, ADA appears to be speaking out of both sides of its mouth when it comes to promoting dental mercury pollution prevention. ADA initiated its voluntary program for best management practices (BMPs) in 2003. In October 2007, the ADA's BMPs were amended to include the recommended use of amalgam separators.[viii] The ADA published its first report in 2002 on amalgam separators, followed by articles in 2003 and 2008.[ix] Therefore, the need to install amalgam separators as part of BMPs to protect the environment was well-established years ago. Yet, working with its state chapters, ADA has successfully blocked any further state mandates for amalgam separators since 2008. ADA also convinced EPA in 2008 to conclude "that a national standard was not warranted at the time," according to their website.[x]

Clear evidence of the failure of voluntary programs had been documented by a 2008 Domestic Policy Subcommittee staff report which cited numerous cases where the programs didn't realize significant compliance.[xi] Since then, the Quicksilver Caucus, a coalition of state government organizations focusing on mercury issues, has found that amalgam separator installation rates are low unless there is a mandatory component.[xii]

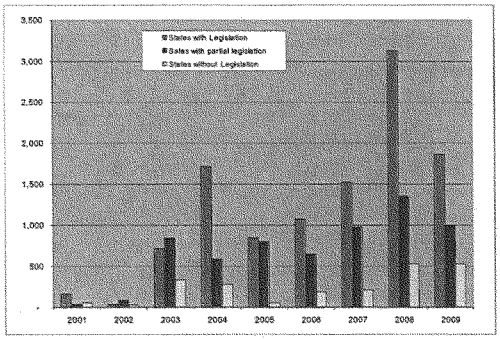
While not regulated nationally, eleven states have mandated pollution control requirements (called "amalgam separators") at dental clinics. State and local programs can eliminate 95%-99% of dental mercury releases to wastewater through a combination of amalgam separators and best management practices. They also require dentists to recycle the mercury and provide reports to verify compliance.

11 States Require Best Management Practices with Amalgam Separators

State	Year	Mandate
Connecticut	2003	Law
Maine	2004	Law
New Hampshire	2005	Rules
Washington	2005	Rules
Vermont	2006	Rules
New York	2006	Rules
Massachusetts	2007	Law
Rhode Island	2007	Law
New Jersey	2007	Rules
Oregon	2011	Law
Michigan	2013	Law

Mercury Policy Project

Yet in states where amalgam separators aren't mandated, compliance is low. Only 13% of the separators sold have been sold in non-regulated states from 2004 through 2009, according to an amalgam separator manufacturer.[xiii]



Partial Estimate of Amalgam Separator Sales, 2001-2009

Only 13% of separators have been sold in non-regulated states from 2004-2009.

Mercury Policy Project

Congressional subcommittee hearings in 2007 and also 2008 also revealed significant disparities between the Agency's estimate of 1.5 tons per year of dental mercury released to air compared with more recent estimates provided by an EPA scientist that were three times higher.

Pathway	EPA 2002 Inventory	MPP Low Estimate 2005	MPP High estimate 2005
Human cremation	0.3	3.0	3.5
Dental clinics	0.6	0.9	1.3
Sludge incineration	0.6	1.5	2.0
MSW disposal	n.a.	0.2	0.5
Infectious/hazardous	n.a	0.5	0.7
Human respiration	n.a.	0.2	0.2
Total	1.5	7.1	9.4

As the table shows, EPA has not developed estimated emissions for several sources, including: dental mercury in sludge that is landfilled or spread on agricultural or forest land, or that is dried before it is used as fertilizer; in infectious and hazardous waste; in general municipal waste; in human respiration; or removed as grit and fines at wastewater treatment plants and disposed of in a number of ways, including septic systems and in combined sewer overflows.

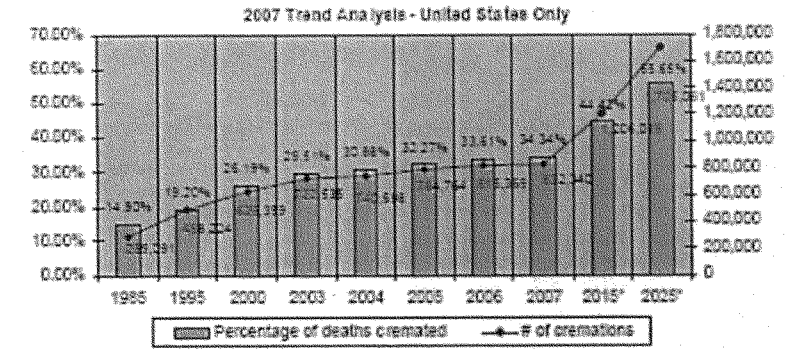
Factoring in other amalgam air pathways that EPA left out and based on new research, our new report estimates that atmospheric emissions from dental mercury could be more than six times the 2002 EPA estimate, due primarily to increasing emissions from cremation.

New data provided by the Cremation Association of North America (CANA) estimates that the 2010 cremation rate in the United States will be just under 36%, with 946,400 cremations, while the rate in 2020 will be about 50%, with approximately 1,456,040 cremations. This is compared to the estimate of 796,058 cremations used in the Region 5 EPA model (29.61% of 2,688,478 total deaths). Thus, the estimate of the EPA scientist for 2010 is 25% too low compared to the CANA estimate, while by 2020, the number of cremations will be 83% larger than the estimate of the model for 2005-2010.[xiv]

In the next 10 years, emissions from crematoria are expected to rise considerably. The chart below from the Cremation Association of America provides an indication of U.S. cremation trends and projections to 2020, which are significantly greater than earlier projections.[xv]

Cremation Data & Predictions: Data Trends

- Percentage of Deaths Resulting in Cremation Since 1985



*Projected figures

There are two simultaneous trends contributing to this: a rise in the average number of fillings per person cremated and a rise in the number of cremations.[xvi] In the past, many corpses had relatively few – if any – of their own teeth, due to losses of teeth. For example, according to a study by U.S. Centers for Disease Control and Prevention (the National Health and Nutrition Examination Survey (NHANES)) in the late 1980s and early 1990s, the presence of teeth in U.S. adults was significantly lower among adults above age 55 as compared to younger adults. By age 55, the average adult had less than half of their teeth, while by 75, the number had fallen to less than a third of their teeth.

However, improved health care has resulted in more people retaining more teeth throughout their lives, which also means more restorations – including amalgam fillings – in corpses. This situation will change in time, as the younger generation has benefited from even better dental health care to not only retain more teeth, but to have fewer restorations. While exact data in the United States on these trends are not available – especially the use and estimates for amalgam fillings – we can get an indication of this from work done in Europe, especially the United Kingdom (UK).[xvii]

In a U.K. report from 2003, it was estimated that the amount of mercury per cremation would increase by 42% from 2005 to 2020, based solely on the increased number of teeth – and hence restorations, per person. If the same would apply in the United States, the total amount of mercury emitted would increase by 160% due to a 83% increase in the number of cremations and a 42% increase in mercury per cremation. **Thus, rather than 6,516 pounds a year, the total mercury emission would be about 16,944 pounds per year.**[xviii]

Estimates of Mercury Emissions from US Crematoria

Year and Source	U.S. Deaths	Cremation Rate	Cremations	Mercury per Cremation	Total Mercury
2005-2010 *	2,688,478	29.61%	796,058	3.72 grams	2961 kg, 6526 pounds
2010 **	2,634,000	35.93%	946,396	3.72 grams	3710 kg, 8177 pounds
2020 ***	NA	50%	1,456,040	5.28 grams	7688 kg, 16,944 pounds

* EPA Region 5 Mercury Flow Model
** CANA Estimates for number of deaths and cremations, 2003
*** Interpolation of CANA estimates for the number of deaths and cremations, 2007 trends analysis, and UK estimates of increased quantity of mercury per cremation on a percent basis, based on increased presence of teeth

Securing accurate estimates of dental mercury air releases is important because the record clearly indicates that EPA prioritizes its activities based in part on the amount of mercury releases from a particular industry sector to the atmosphere. Yet EPA continues to significantly underestimate the amount of air pollution that dental mercury accounts for, thereby rendering this problem a lower priority in the Agency's comprehensive mercury reduction strategy.

In conclusion, the problem with the midnight deal between the Bush Administration and the ADA is that it allows significant and preventable mercury pollution releases to the air and water. The deal was based on faulty information, left ADA in charge of developing baseline data before goals could be set, is being unduly delayed, and lacks openness, transparency and follow through. Voluntary educational outreach program might be justified for a *de minimis* pollution source, but is clearly not adequate for this significant source of mercury pollution.

Dental mercury releases to the atmosphere, estimated at between 7-9 metric tons per year in 2005, are significant and growing. The dental sector also remains the largest mercury contributor to wastewater "by far;" although decreasing they are still large users, too. EPA's premise for their MOU with ADA and for not establishing effluent guidelines in 2008 was based on faulty information, which is still being perpetuated to this day on the ADA on website.[xix]

Therefore, we recommend that EPA should establish effluent guidelines for dental offices, including employment of BMPS and amalgam separators. The Agency's 2002 dental Hg air emissions data must be updated, especially for cremation, and include all sources. We also strongly believe that EPA should regulate mercury emissions from crematoria. Finally, EPA should maintain an open and transparent process and include NGOs.

ENDNOTES

[i] See: http://mpp.cclearn.org/wp-content/uploads/2008/08/benders-testimony.pdf

[ii] EPA International Mercury Market Study, cited in Mercury Policy Project, *"Current Status of US Dental Mercury Reduction Initiatives,"* Oct. 12, 2007.

[iii] [Anonymous.] 1991. The Mercury in Your Mouth. Consumer Reports (May):316-319.

[iv]See: http://www.epa.gov/mercury/dentalamalgam.html

[v] Memorandum of Understanding between EPA, ADA and the National Association of Clean Water Agencies to establish and monitor the effectiveness of a Voluntary Dental Amalgam Discharge Reduction Program, December 29, 2008; see: http://www.epa.gov/guide/dental/files/mou.pdf

[vi] ADA Promotes Voluntary Installation and Use of Amalgam Separators, see: http://www.ada.org/sections/professionalResources/pdfs/topics_amalgamseparators_flyer.pdf

[vii] EPA, Notice of Availability of Preliminary 2008 Effluent Guidelines Program Plan, 72 Fed. Reg. 61,335,61348 (October 30, 2007) and *EPA's Roadmap for Mercury* (July 5, 2006).

[viii] See: http://www.ada.org/sections/publicResources/pdfs/topics_amalgamwaste.pdf

[ix] The ADA first published "Laboratory evaluation of amalgam separators" (PL Fan, Hanu Batchu, Hwai-Nan Chau, William Gasparac, Jim Sandrik and Daniel M Meyer) in the May 2002 issue of the ADA Journal. Note the ADA BMPs were first published in October of 2003 after this article was published in May 2002.

[x] ADA Promotes Voluntary Installation and Use of Amalgam Separators, see: http://www.ada.org/sections/professionalResources/pdfs/topics_amalgamseparators_flyer.pdf

[xi] Ibid.

[xii] Letter from Mark McDermid, Quicksilver Caucus, Lead ECOS Representative to the EPA Water Docket ID No. EPA-HQ-OW-2008-0517, March 31, 2010.

[xiii] Email attachment from Al Dube, National Sales Manager, Dental Division, SolmeteX, Northborough, MA, May 5, 2010.

[xiv] See: http://www.cremationassociation.org/Media/CremationStatistics/tabid/95/Default.aspx, accessed May 17, 2010

[xv] ibid.

[xvi] Department for Environment, Food and Rural Affairs (Defra, UK) (2003), "Mercury emissions from crematoria. Consultation on an assessment by the Environment Agency's Local Authority Unit", 2003, 25 pages. Accessed on the Internet at http://www.defra.gov.uk/corporate/consult/crematoria/index.htm on July 14, 2005. Accessed on the Internet on May 10, 2010 at http://web.archive.org/web/20031204071747/http://www.defra.gov.uk/corporate/consult/crematoria/consultation.pdf

[xvii] John Reindl, "Summary of References on Mercury Emissions from Crematoria" (unpublished), May 9, 2010.

[xviii] Ibid.

[xix] See: http://www.ada.org/sections/professionalResources/pdfs/topics_amalgamseparators_flyer.pdf

Mr. KUCINICH. Thank you very much, Mr. Reindl.

Mr. Walsh, we are going to go to questions now. You testified that the ADA filed public comment in 2007 against bringing dentist offices under mandatory effluent guidelines. The reason you exempt dentists was, as you state, because dentists can and will act on their own. But isn't it true that nearly every State or local jurisdiction that has tried to get dentists to voluntarily adopt mercury separators has then chosen to mandate or threatened to mandate a separator requirement because dentists were not, in fact, acting in large numbers on their own?

Mr. WALSH. Well, I think it is inherent in any voluntary program that I am aware of that there is the implicit or explicit consideration that the next step is regulation. In the MOU, we specifically say that EPA and the States reserve that right. In fact, in the communications that the ADA uses to its members, it points out, as it must, to be honest and forthright with its members, that if they do not do a voluntary compliance the likely next step is enforcement.

Mr. KUCINICH. So are just some members waiting for mandatory?

Mr. WALSH. There has been, I think, a very long education road to educate the dental professionals about this issue. When I was first retained by the ADA back in 2001, there was very little knowledge of what the regulatory regime was. They were dentists. They had not been involved in many environmental issues.

They also had some scientific issues about what was being said. A lot of people took the 50 percent numbers of what was going into the plant, POTW plants, and said that was what was coming out. We built a factual basis that showed that it was a problem that was significant in terms of the effluent, the benefits of recycling, and on a science basis, which professionals like the Dental Association and its members are understanding more, and we look at the data and there were early failures, and the dental community was part of the reason for the failures.

But if you look at the pattern not only in the voluntary programs involving dentists, but other voluntary programs, because for 20 years the Water Office has used voluntary programs. In situations like this where there is a large number of small entities that have to be regulated and it has mainly to do with their own resources and their own priorities, we thought that if we have a consistent message from the ADA, from the regulators, and those States or localities where there are either local conditions that are required more stringent, they should go ahead and do what they think is appropriate. We reserved all the rights to do that, but we think that it actually will be quicker to do this on a voluntary basis, and we understand that if we are not successful that a likely outcome is that EPA will issue a regulation.

Mr. KUCINICH. Mr. Brown, would you like to respond to what Mr. Walsh said?

Mr. BROWN. Voluntary programs have a purpose and a place, but our position is that their time as the solution has passed. We need to have EPA, under the Clean Water Act, assert its authority to issue a rule on this matter, and during the process when that rule is developed, before it is finalized, it takes years, typically, that the voluntary programs can help educate dentists about their obliga-

tions and get some results before the rule actually comes into place.

Mr. KUCINICH. Mr. Walsh, you saw that chart on the wall, right?

Mr. WALSH. I did, yes.

Mr. KUCINICH. The one that deals with dentists seemingly responding when mandatory regulations are requiring adoption of mercury separators. I mean, I just wanted to ask you, because you have seen it, isn't that evidence that dentists respond when you have mandatory regulations?

Mr. WALSH. I think you need to look at the individual cases.

Mr. KUCINICH. I am asking what you saw, not what I saw.

Mr. WALSH. Well, what I saw is a number of different factual backgrounds. One of the charts shows, I believe, either Minnesota or Minneapolis in its voluntary program. That was a relatively successful voluntary program, and it was followed by agreement of the local dental association to go to a——

Mr. KUCINICH. Are you talking about Massachusetts?

Mr. WALSH. No, I am talking about——

Mr. KUCINICH. Take a look at that chart. I just want to make sure we are talking about the same thing, because if you are talking about Massachusetts, they had a different reason for their compliance in Massachusetts. This letter from the Commonwealth of Massachusetts, which I will put into the record, says a big jump in SolmeteX, Inc. separator sales apparent in Mr. Dube's exhibits starting 24 months prior to the effective date of Massachusetts' regulations, which were adopted in 2006, this sales increase started in 2004 was concurrent with an innovative incentivized early compliance effort implemented by MassDep in concert with the development of State regulations requiring separator use.

We will put that in the record, without objection.

[The information referred to follows:]

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

Submitted for the Record by
Chairman Dennis Kucinich

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

Dennis J. Kucinich, Chairman
Domestic Policy Subcommittee
Of the
Oversight and Government Reform Committee

2154 Rayburn House Office Building
Wednesday, May 26, 2010
1:00 p.m.

"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices"

May 26, 2010

United States House of Representatives
Domestic Policy Subcommittee
Oversight and Government Reform Committee
U.S. House of Representatives
B-349-B Rayburn House Office Building
Washington, DC 20515

Chairman Kucinich and Members of the Subcommittee:

I am writing on behalf of the Quicksilver Caucus and the New England Governors and Eastern Canadian Premiers Mercury Task to provide additional information regarding an exhibit submitted by Mr. Dube of SolmeteX, Inc. for the subcommittee's May 26, 2010 hearing: *Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices"*. Mr. Dube's exhibit summarizes amalgam separator sales in relation to state regulatory requirements and is consistent with observations regarding amalgam separator use in Massachusetts (MA) and the New England states.

In interpreting this sales trend data it is important to keep in mind the overall approach and timing of state efforts to address mercury pollution from this sector, in particular for MA. In MA a big jump in SolmeteX, Inc. separator sales is apparent in Mr. Dube's exhibit, starting 24 months prior to the effective date of MA regulations, which were adopted in 2006. This sales increase started in 2004 and was concurrent with an innovative incentivized early compliance effort implemented by MassDEP in concert with the development of the state regulations requiring separator use.

In MA, statewide efforts to address mercury pollution from the dental sector started in 2001 with the adoption of a Memorandum of Understanding (MOU) between the Massachusetts

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
MassDEP on the World Wide Web: http://www.mass.gov/dep
Printed on Recycled Paper

Department of Environmental Protection (MassDEP) and the Massachusetts Dental Society (MDS). This MOU focused on voluntary efforts to encourage the use of best management practices (BMP) and mercury pollution controls known as amalgam separators in the state. Efforts under this MOU helped raise dentist's awareness of waste amalgam's impacts on the environment. However, as evidenced by SolmeteX data amalgam separator sales did not significantly increase in MA until 2004.

To level the playing field and speed up the use of amalgam separators, MassDEP initiated an innovative follow-up, two-phase program which started in 2004. At the beginning of this effort, MassDEP announced that it was developing regulations to require the use of separators and other BMPs by all dental offices that generate and discharge mercury containing wastewater. To achieve faster mercury pollution reductions during the period of regulatory development and implementation, MassDEP initiated an incentivized early compliance program in 2004. This early compliance effort was implemented using an Environmental Results Program (ERP) approach, where participating dentists electronically certified their installation of amalgam separators achieving greater than 95% mercury control based on the ISO11143 test, as well as their use of a suite of BMPs to reduce mercury pollution. In the MA early compliance program, dentists participating before March 1, 2005 were exempted from agency permit fees and grandfathered from potentially more stringent regulations until February 1, 2010. Dentists who certified participation between February 28, 2005 and February 1, 2006, were granted the same incentives but for a shorter period. This incentivized early compliance program was very successful and over 70% of MA dentists participated in the first year.

This program's initiation in 2004 corresponds to the starting point in the data graph exhibit submitted by Mr. Dube of SolmeteX, Inc and the data presented therein further demonstrate the effectiveness of the MA incentivized early compliance program with its regulatory backstop.

Regulations requiring the use of separators and BMPs in MA were developed on schedule with the assistance of a stakeholder workgroup including individual dentists, MDS representatives, sewerage authorities, and environmental groups and were adopted in April of 2006. Compliance verification site visits to groups of dental offices across the state, selected using statistical based sampling criteria, indicates that >98% of dental offices in MA have now installed amalgam separators.

Should you have any questions regarding this information please contact me at your convenience.

Sincerely,

C. Mark Smith Ph.D., M.S.

Deputy Director, Office of Research and Standards
Massachusetts Department of Environmental Protection

1 Winter Street, Boston, MA 02108

CoChair, New England Governors and Eastern Canadian Premiers Mercury Task Force

Mr. KUCINICH. Do you have any comment on that?

Mr. WALSH. Without having read the details——

Mr. KUCINICH. I am going to ask my staff to take——

Mr. WALSH. As a general matter, as I said a few seconds ago, many of these programs, voluntary programs, some of them were do it voluntary within X number of years or we are going to make it mandatory. In a couple of cases they decided they didn't need to go to the mandatory case. Part and parcel of any of these voluntary kinds of programs is the implicit or explicit threat of there being a mandatory requirement.

Mr. KUCINICH. But if there is no mandatory requirement in the offing——

Mr. WALSH. If there is no mandatory——

Mr. KUCINICH [continuing]. The voluntary compliance is going to be low, right?

Mr. WALSH. That is true, but——

Mr. KUCINICH. OK. I am done. That is my question.

Mr. WALSH. Fine.

Mr. KUCINICH. That is what I wanted to hear.

Now, Ms. Watson is going to have 5 minutes, and then we will be back. Thanks.

The Chair recognizes Ms. Watson.

Ms. WATSON. Thank you very much.

I mentioned a bill that I have called the CHOMP Act, and it stands for Consumers Have Options for Molar Protection. First letter of each word spells CHOMP, and we chomp on food.

Your organization came out in opposition to my bill, the CHOMP act, because the ADA believes that mercury amalgam is safe. However, the CHOMP Act addresses important consumer knowledge.

Do you believe dentists should tell every patient that amalgam is mainly mercury?

Mr. WALSH. Testimony that I have prepared and what I have been prepared to talk about——

Ms. WATSON. Yes? No?

Mr. WALSH [continuing]. Has to do with the——

Mr. WALSH. Can you answer my——

Mr. WALSH [continuing]. MOU and——

Ms. WATSON [continuing]. Question very specifically?

Mr. WALSH. No, I can't answer your question because I am not the person at the ADA who has responded to you. We can respond in writing.

Ms. WATSON. Let me ask it again, and listen to it very carefully. If I am not speaking clearly, just let me know.

Do you believe dentists should tell every patient that amalgam is mainly mercury? Yes? No?

Mr. WALSH. You mean me personally, you are asking?

Ms. WATSON. Do you, Mr. Walsh?

Mr. WALSH. Just as Mr. Walsh?

Ms. WATSON. Do you believe that dentists should ask that question or tell the patients that amalgam is mainly mercury?

Mr. WALSH. I think I would have to know more about the issue than I do, because——

Ms. WATSON. All right. If not, state in what circumstances should dentists withhold from patients that amalgam is mainly mercury?

Mr. WALSH. I am not aware of any circumstance in which dentists withhold that information.

Ms. WATSON. Can you think of a time when they should tell their patients what amalgam is composed of and what percentages of mercury is in amalgam?

Mr. WALSH. This is not something I am either qualified to——

Ms. WATSON. You are not aware?

Mr. WALSH [continuing]. Or prepared to respond.

Ms. WATSON. You are not aware? Yes? No?

Mr. WALSH. It is not a question I am capable or qualified to answer.

Ms. WATSON. Or are you capable or qualified to know what is amalgam? What is an amalgam?

Mr. WALSH. I do know what an amalgam is, yes.

Ms. WATSON. OK. Do you know the percentages of what makes up the amalgam?

Mr. WALSH. Yes.

Ms. WATSON. OK. Is amalgam 50 percent mercury?

Mr. WALSH. On average, yes.

Ms. WATSON. OK. Do you think a person should know that amalgam is 50 percent mercury?

Mr. WALSH. It is beyond my preparation for this meeting and I have to think——

Ms. WATSON. Is mercury safe?

Mr. WALSH. The FDA has said mercury in amalgam use is safe.

Ms. WATSON. Is mercury safe?

Mr. WALSH. Well, you have to look at the use, the exposure to determine it. In certain uses it is not safe, in other uses, at least government agencies have found it to be safe.

Ms. WATSON. Let me see. Maybe I don't really speak clearly, so let me speak real clearly. You have a 9-year old child in the dental chair and you are going to fill that cavity in that child's mouth, the mother is sitting right outside the door or maybe inside because no one likes to go to the dentist. If the mother would ask the dentist, what are you putting into my child's mouth, do you think the dentist should tell that mother what is going in the mouth?

Mr. WALSH. If I were——

Ms. WATSON. We are talking about professionals.

Mr. WALSH. If I were asked the question I would answer the question, but you are asking in a policy context.

Ms. WATSON. We are talking about a professional dentist, DDS, and the mother wants to know what is going in the child's mouth. What do you think? Who do you represent?

Mr. WALSH. I represent the American Dental Association on amalgam wastewater issues.

Ms. WATSON. OK. I will accept that. OK. Now, something goes in that amalgam, and when they finish they usually give you some water and you spit it out. It becomes wastewater. It goes out into the sewage plant and then it goes into the ocean.

Now, if you were asked by a parent, is there anything in there that will put my child at risk, do you think a dentist should say yes, no?

Mr. WALSH. [No audible response.]

Ms. WATSON. Apparently you are having trouble with my questions. Let me go on.

Mr. WALSH. OK. Go on.

Ms. WATSON. I do understand that historically——

Mr. KUCINICH. The gentlelady's time is expired, but you can ask your question.

Ms. WATSON. OK. I will just ask this one and then I will leave it alone, but I think we are getting the picture. I think we are getting the picture here, and we are talking about a toxic substance. I do understand that historically mercury fillings have been labeled silver fillings because of their color. Is that something you understand?

Mr. WALSH. I have heard and used that phrase. Yes.

Ms. WATSON. OK. However, that title is no longer relevant and it no longer fits and is desperately in need of a scientific update. Why does the ADA insist on using the term silver fillings to describe amalgam rather than more appropriately referring to mercury fillings? And why doesn't the ADA advocate for implementation of the recognized best practice of calling these fillings mercury fillings? Now, you represent the ADA. Can you tell us?

Mr. KUCINICH. The witness can answer the question and then we are going to complete this round.

Ms. WATSON. Yes.

Mr. WALSH. I think the ADA can answer that question in writing. Again, that is not within the area in which I represent them.

Ms. WATSON. Are you refusing to answer verbally?

Mr. WALSH. I am saying I am not the one that knows the answer, so I——

Ms. WATSON. But you are representing the ADA.

Mr. WALSH. I am representing them, as I said in my opening statement——

Ms. WATSON. I yield back.

Mr. WALSH [continuing]. Based on amalgam wastewater issues.

Ms. WATSON. I yield back.

Mr. KUCINICH. Well, let me pick up where the gentlelady left off, and that is that you heard the question or asked, and I would like to see an answer in writing.

Mr. WALSH. We will.

[The information referred to follows:]

EDOLPHUS TOWNS, NEW YORK
CHAIRMAN

DARRELL E. ISSA, CALIFORNIA
RANKING MINORITY MEMBER

ONE HUNDRED ELEVENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

2157 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6143

Majority (202) 225-5051
Minority (202) 225-5074

May 28, 2010

Dr. John S. Findley
President
American Dental Association
211 East Chicago Ave.
Chicago, Illinois 60611

Dear Dr. Findley:

In connection with the May 26, 2010 hearing of the Domestic Policy Subcommittee, entitled, "***Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices***," I hereby request that you provide answers in writing to the following questions for the hearing record.

Questions from Chairman Kucinich:

1. Mr. Walsh testified that ADA filed public comment in 2007 against bringing dentist offices under mandatory effluent guidelines. The reason to exempt dentists was, as he stated in his hearing testimony, "because dentists can and will act on their own."

    a. But isn't it true that nearly every state or local jurisdiction that has tried to get dentists to voluntarily adopt mercury separators has then chosen to mandate or threaten to mandate a separator requirement because dentists were not, in fact, acting in large numbers on their own?

2. At the hearing, I asked ADA to comment on a slide of sales trends of SolmeteX amalgam separators in a number of states. This graph (which I am attaching for your reference) depicts the actual sales trends of mercury separators to dentists by the largest manufacturer in the nation. As you can see, sales pick up dramatically just prior to mandatory regulations kicking in, which is depicted by the shaded column. The purchase rate decreases the further away you go from the shaded bar. That period is the "voluntary period" that preceded the mandatory requirements.

a. Isn't it true that dentists have demonstrated that they are slow to adopt mercury separators in large numbers until just before mandatory requirements kick in?
b. ADA made the comment at the hearing that all voluntary regulations, "implicitly or explicitly," incorporate the possibility of mandatory requirements. But isn't it true that, as the SolmeteX graph depicts, dentists only respond in large numbers to the near term, explicit reality of mandatory requirements?

3. The parties to the Memorandum of Understanding, including ADA, have responsibility, per the Memorandum of Understanding, to "promote compliance with the ADA BMPs by dentists and other members of the dental team… [to] continue and expand its programs to raise awareness and provide training, outreach and implementation resources to dentists and other members of the dental team."

   a. When my staff spoke with a top official at ADA about steps ADA is taking to measure the effectiveness of its outreach campaign, such as tracking if dentists are using BMPs or even viewing the brochure it produced, we learned that ADA is NOT even tracking that. How can ADA optimize its efficacy in promoting compliance with its BMPs if it doesn't track dentist compliance with its BMPs or even whether they look at its brochure?

   b. We have also learned that ADA recently held a conference in Chicago for Illinois dentists on the topic of limiting mercury pollution from dental offices. The results were not impressive. Of the 8,500 dentists in the state of which 6,600 are members of the state dental society, only 21 came to the conference. Doesn't that statistic suggest that ADA's outreach efforts are ineffective?

   c. What measures is ADA going to employ to monitor and evaluate the efficacy of its efforts to promote dentist compliance with amalgam reduction BMPs?

4. The Environmental Council of the States testified that after the MOU was signed, they petitioned EPA to participate as a signatory, but were turned down on. ECOS says, "On January 22, 2009, QSC again requested that states be included as parties to the MOU because states are co-regulators with EPA for implementing the Clean Water Act…EPA replied that they would take QSC's request to the other MOU parties and get back to QSC with a reply." But the reply was NO.

   a. Is it true that EPA raised the question with ADA and the other signatory? Please describe the circumstances.
   b. Did EPA express an opinion on expanding the membership of the MOU?
   c. What was ADA's opinion on expanding membership of the MOU?

Questions from Representative Diane Watson

5. ADA opposed my bill, HR 4615, the CHOMPS Act, which requires dentists to give patients a FDA created fact sheet describing the positives and negatives of each type of filling. Does ADA believe dentists should inform every patient that amalgam is mainly mercury? If not, please state in what circumstances should dentists withhold from patients that amalgam is mainly mercury?

6. Historically mercury fillings have been labeled silver fillings because of their color. Nonetheless, their silver color is actually an attribute of the mercury, which is the largest single component. In view of this fact, why doesn't the ADA advocate for implementation of the recognized best practice of calling these fillings mercury fillings?

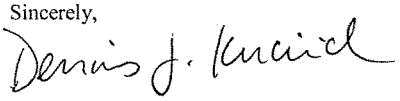
7. Is ADA familiar with any research on the changing composition of mercury fillings during the course of their lifetime? What are the environmental emissions from any vaporization of mercury in fillings during the course of their lifetime?

8. Is ADA familiar with any research on the biological effect of mercury vaporizing from mercury fillings in the mouths of people with amalgam fillings?

The Oversight and Government Reform Committee is the principal oversight committee in the House of Representatives and has broad oversight jurisdiction as set forth in House Rule X. An attachment to this letter provides information on how to respond to the Subcommittee's request.

We request that you provide these documents as soon as possible, but in no case later than **5:00 p.m. on Friday, June 11, 2010**. If you have any questions regarding this request, please contact Jaron Bourke, Staff Director, at (202) 225-6427.

Sincerely,



Dennis J. Kucinich
Chairman
Domestic Policy Subcommittee

cc: Jim Jordan
Ranking Minority Member

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Congress of the United States

House of Representatives

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

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WASHINGTON, DC 20515–6143

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Domestic Policy Subcommittee Document Request Instruction Sheet

In responding to the document request from the Domestic Policy Subcommittee, Committee on Oversight and Government Reform, please apply the instructions and definitions set forth below.

Instructions

1. In complying with the request, you should produce all responsive documents in your possession, custody, or control.

2. Documents responsive to the request should not be destroyed, modified, removed, transferred, or otherwise made inaccessible to the Subcommittee.

3. In the event that any entity, organization, or individual denoted in the request has been, or is currently, known by any other name than that herein denoted, the request should be read also to include them under that alternative identification.

4. Each document produced should be produced in a form that renders the document capable of being copied.

5. When you produce documents, you should identify the paragraph or clause in the Subcommittee's request to which the documents respond.

6. Documents produced in response to this request should be produced together with copies of file labels, dividers, or identifying markers with which they were associated when this request was issued. To the extent that documents were not stored with file labels, dividers, or identifying markers, they should be organized into separate folders by subject matter prior to production.

7. Each folder and box should be numbered, and a description of the contents of each folder and box, including the paragraph or clause of the request to which the documents are responsive, should be provided in an accompanying index.

8. It is not a proper basis to refuse to produce a document that any other person or entity also possesses a nonidentical or identical copy of the same document.

9. If any of the requested information is available in machine-readable or electronic form (such as on a computer server, hard drive, CD, DVD, memory stick, or computer backup tape), you should consult with Subcommittee staff to determine the appropriate format in which to produce the information.

10. The Committee accepts electronic documents in lieu of paper productions. Documents produced in electronic format should be organized, identified, and indexed electronically in a manner comparable to the organizational structure called for in (6) and (7) above. Electronic document productions should be prepared according to the following standards:

    (a) The production should consist of single page TIF files accompanied by a Concordance-format load file, an Opticon reference file, and a file defining the fields and character lengths of the load file.

    (b) Document numbers in the load file should match document Bates numbers and TIF file names.

    (c) If the production is completed through a series of multiple partial productions, field names and file order in all load files should match.

11. In the event that a responsive document is withheld on any basis, you should provide the following information concerning the document: (a) the reason the document is not being produced; (b) the type of document; (c) the general subject matter; (d) the date, author, and addressee; and (e) the relationship of the author and addressee to each other.

12. If any document responsive to this request was, but no longer is, in your possession, custody, or control, you should identify the document (stating its date, author, subject and recipients) and explain the circumstances by which the document ceased to be in your possession, custody, or control.

13. If a date or other descriptive detail set forth in this request referring to a document is inaccurate, but the actual date or other descriptive detail is known to you or is otherwise apparent from the context of the request, you should produce all documents which would be responsive as if the date or other descriptive detail were correct.

14. This request is continuing in nature and applies to any newly discovered document. Any document not produced because it has not been located or discovered by the return date should be produced immediately upon location or discovery subsequent thereto.

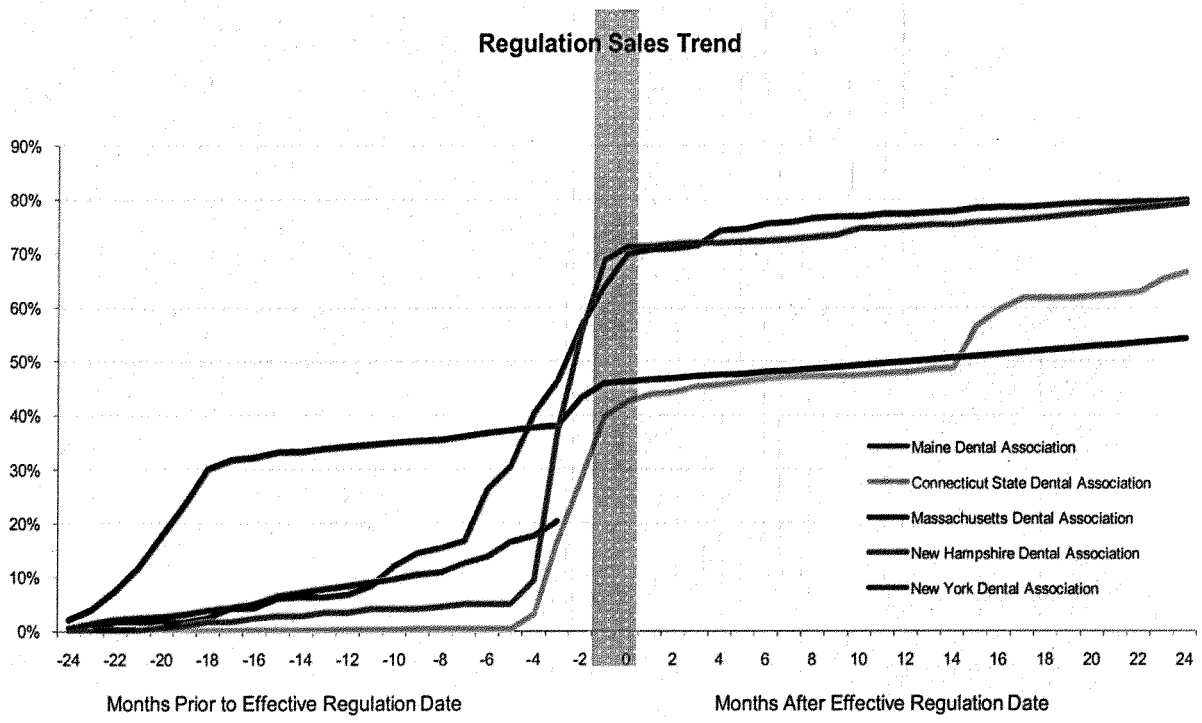
15. All documents should be bates-stamped sequentially and produced sequentially. In the cover letter, you should include a total page count for the entire production, including both hard copy and electronic documents.

16. For paper productions, four sets of documents should be delivered: two sets to the majority staff and two sets to the minority staff. For electronic productions, one dataset to the majority staff and one dataset to minority staff are sufficient. Productions should be delivered to the majority staff in B-349B

Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building. You should consult with Subcommittee staff regarding the method of delivery prior to sending any materials.

17. Upon completion of the document production, you should submit a written certification, signed by you or your counsel, stating that: (1) a diligent search has been completed of all documents in your possession, custody, or control which reasonably could contain responsive documents; and (2) all documents located during the search that are responsive have been produced to the Subcommittee or identified in a privilege log provided to the Subcommittee.

Sales of System



ADA American Dental Association®

STATEMENT FOR THE RECORD

AMERICAN DENTAL ASSOCIATION

TO THE

SUBCOMMITTEE ON DOMESTIC POLICY
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

ON

"ASSESSING EPA'S EFFORTS TO MEASURE AND REDUCE MERCURY POLLUTION FROM DENTIST OFFICES"

JUNE 18, 2010

Washington Office: 1111 14th Street NW Washington DC 20005 (202) 898-2400

1. Mr. Walsh testified that ADA filed public comment in 2007 against bringing dentist offices under mandatory effluent guidelines. The reason to exempt dentists was, as he stated in his hearing testimony, "because dentists can and will act on their own."

    a. But isn't it true that nearly every state or local jurisdiction that has tried to get dentists to voluntarily adopt mercury separators has then chosen to mandate or threaten to mandate a separator requirement because dentists were not, in fact, acting in large numbers on their own?

    Answer: There are numerous voluntary efforts underway in the states to promote the use of separators. The ADA's efforts are nationwide. There are only eleven states with mandates, so it is not true that nearly all voluntary efforts result in mandates.

2. At the hearing, I asked ADA to comment on a slide of sales trends of SolmeteX amalgam separators in a number of states. This graph depicts the actual sales trends of mercury separators to dentists by the largest manufacturer in the nation. As you can see, sales pick up dramatically just prior to mandatory regulations kicking in, which are depicted by the shaded column. The purchase rate decreases the further away you go from the shaded bar. That period is the "voluntary period" that preceded the mandatory requirements.

    a. Isn't it true that dentists have demonstrated that they are slow to adopt mercury separators in large numbers until just before mandatory requirements kick in?

    b. ADA made the comment at the hearing that all voluntary regulations, "implicitly or explicitly," incorporate the possibility of mandatory requirements. But isn't it true that, as the SolmeteX graph depicts, dentists only respond in large numbers to the near term, explicit reality of mandatory requirements?

    Answer: Since the MOU explicitly recognizes that the EPA or state or local authorities are free to impose regulations, there is always the threat of regulatory action. We are not familiar with the data underlying the SolmeteX graph, but every example cited in that graph predates the active promotion of separators by the ADA and the combined efforts of the ADA and EPA under the MOU.

3. The parties to the Memorandum of Understanding, including ADA, have responsibility, per the Memorandum of Understanding, to "promote compliance with the ADA BMPs by dentists and other members of the dental team… [to] continue and expand its programs to raise awareness and provide training, outreach and implementation resources to dentists and other members of the dental team."

    a. When my staff spoke with a top official at ADA about steps ADA is taking to measure the effectiveness of its outreach campaign, such as tracking if dentists are using BMPs or even viewing the brochure it produced, we learned that ADA is NOT even tracking that. How can ADA optimize its efficacy in promoting compliance with its BMPs if it doesn't track dentist compliance with its BMPs or even whether they look at its brochure?

    b. We have also learned that ADA recently held a conference in Chicago for Illinois dentists on the topic of limiting mercury pollution from dental offices. The results were not impressive. Of the 8,500 dentists in the state of which 6,600 are members of the state dental society, only 21 came to the conference. Doesn't that statistic suggest that ADA's outreach efforts are ineffective?

    c. What measures is ADA going to employ to monitor and evaluate the efficacy of its efforts to promote dentist compliance with amalgam reduction BMPs?

Answer: The question directed to the ADA official was whether the Association tracked how many dentists received the written materials developed by the ADA or downloaded similar materials. The ADA does not have those numbers available. But, under the MOU, the parties have agreed to track progress based on separator sales. The meeting in Chicago referenced above was not an ADA meeting; it was a joint Illinois EPA (IEPA) and Illinois State Dental Society (ISDS) meeting.

4. The Environmental Council of the States testified that after the MOU was signed, they petitioned EPA to participate as a signatory, but were turned down. ECOS says, "On January 22, 2009, QSC again requested that states be included as parties to the MOU because states are co-regulators with EPA for implementing the Clean Water Act...EPA replied that they would take QSC's request to the other MOU parties and get back to QSC with a reply." But the reply was NO.

    a. Is it true that EPA raised the question with ADA and the other signatory? Please describe the circumstances.
    b. Did EPA express an opinion on expanding the membership of the MOU?
    c. What was ADA's opinion on expanding membership of the MOU?

Answer: The MOU is among the ADA, EPA and NACWA. It is in the nature of such MOUs that participation under them is limited to specific parties. The ADA staff who worked with EPA staff on the MOU has no recollection as to whether the issue of ECOS being a signatory to the MOU was raised. That being said, the ADA does not believe it makes sense for ECOS to join the MOU because there are no responsibilities set forth within it for ECOS. The ADA has no objection to EPA sharing information with or seeking input from ECOS. It is our understanding that this is being done.

Questions from Representative Diane Watson

5. ADA opposed my bill, HR 4615, the CHOMPS Act, which requires dentists to give patients a FDA created fact sheet describing the positives and negatives of each type of filling. Does ADA believe dentists should inform every patient that amalgam is mainly mercury? If not, please state in what circumstances should dentists withhold from patients that amalgam is mainly mercury?

Answer: The ADA encourages open and frank discussions between patients and dentists on all aspects of treatment. The ADA has published a brochure on dental treatment options which facilitates this discussion. H.R. 4615 is based on the premise that dentists neither know nor discuss the comparative risks and benefits of using certain materials to repair or restore damaged teeth. As this view is simply not true, the American Dental Association (ADA), which represents more than 157,000 dentists, strongly opposes this legislation.

Dentists are, first and foremost, responsible for the oral health care of their patients and they take that responsibility very seriously. On average, dentists study and train more than six years beyond a four-year college degree to become a doctor of oral health. They must then pass rigorous national written examination and state or regional clinical licensing exams in order to practice. As a condition of licensure, they must meet continuing education requirements for the remainder of their careers, to keep up to date on the latest scientific and clinical developments.

In consultation with their patients, dentists draw on this experience to chart the most effective course of treatment that will ensure restored function and overall oral health. H.R. 4615 would do harm to this relationship not only by interjecting the government into the middle of it, but also by raising an unfounded fear in patients that may prevent them from seeking needed and necessary care.

While H.R. 4615 raises the specter of mercury in dental amalgam, the bill fails to recognize scientific evidence that dental amalgam is safe. On July 28, 2009, the FDA issued a final rule that categorized dental amalgam as a Class II medical device, which is the same class as gold and tooth-colored composite fillings. After reviewing more than 200 scientific studies, the FDA's decision confirms the broadly accepted position that dental amalgam is safe and has not caused harm to patients.

Dental amalgam is often times the best treatment option available to a dentist for restorative work, offering a number of benefits that other restorative materials do not. Its use depends on changing circumstances that are best observed and reacted to by a dentist, acting in the best interests of his or her patients' health. Interjecting a one-size-fits-all government document about the dangers of mercury will do harm to that work and the dentist-patient relationship it is built on.

6. Historically mercury fillings have been labeled silver fillings because of their color. Nonetheless, their silver color is actually an attribute of the mercury, which is the largest single component. In view of the fact, why doesn't ADA advocate for implementation of the recognized best practice of calling these fillings mercury fillings?

   Answer: The ADA is unfamiliar with any such "recognized" best practice. The correct term is dental amalgam.

7. Is ADA familiar with any research on the changing composition of mercury fillings during the course of their lifetime? What are the environmental emissions from any vaporization of mercury in fillings during the course of their lifetime?

   Answer: The ADA has submitted to the Food and Drug Administration a literature review on the safety of dental amalgam. The ADA believes that any air emissions from placed amalgam restorations are minimal.

8. Is ADA familiar with any research on the biological effect of mercury vaporizing from mercury fillings in the mouths of people with amalgam fillings?

   Answer: See previous answer.

Mr. KUCINICH. I appreciate your being here. Until myself and my colleagues get answers, definitive answers to these questions, we are not going to be able to put this issue to rest and we will be coming back and back and back.

Mr. WALSH. We will be happy to answer all of those questions.

Mr. KUCINICH. That is why we are hoping these hearings are——

Ms. WATSON. Mr. Chairman, could you yield so I can ask you a question?

Mr. KUCINICH. All right.

Ms. WATSON. I would hope that if we do another hearing, we will require someone who is a professional dentist from the ADA rather than the attorney, because the questions I am asking really should be responded to by a professional——

Mr. KUCINICH. Well, I will ask staff to be mindful of your request.

Ms. WATSON. Maybe we can put it in writing and see if we can get somebody, not the attorney.

Mr. KUCINICH. Mr. Walsh is aware of the rules that this committee has to produce witnesses, so you can facilitate that working with the committee, I am sure. Thank you.

Ms. WATSON. Thank you.

Mr. KUCINICH. Mr. Cain, in your testimony you conclude that "EPA's estimate under-states emissions of mercury from human cremation." Your own scientific work estimates the true emissions to be about at least seven times the estimate from EPA; isn't that right?

Mr. CAIN. That is right.

Mr. KUCINICH. The problem of mercury air emissions by crematoria likely to increase, decrease, or stay the same, in your opinion?

Mr. CAIN. In my opinion I agree with Mr. Reindl that over the next 10 years it will increase. I think over the much longer term it will decrease as a result of better dental care and the reduced need for dental amalgam fillings. But for the next decade, it will certainly increase.

Mr. KUCINICH. Mr. Reindl, what is the European research about mercury air emissions from crematoria showing?

Mr. REINDL. I would agree with what Mr. Cain had said. The peak appears to be forecast to occur about 2020, and after that period of time it will start to decrease.

Mr. KUCINICH. So does mercury in the teeth of deceased persons amount to a significant source of air emissions from crematoria?

Mr. REINDL. In my opinion, yes, a very significant source.

Mr. KUCINICH. Going back to Mr. Cain, your paper in the Journal of Industrial Ecology was published in 2007, but you have been presenting your work since 2005 at scientific conferences; isn't that right?

Mr. CAIN. That is correct.

Mr. KUCINICH. And in those years did your work ever have an impact on EPA's official air emissions inventory?

Mr. CAIN. No, it did not.

Mr. KUCINICH. Now EPA has informed us that they are in the process—that was the word that Ms. Stoner used—process of developing an automated, internet-based procedure of receiving actual

emission measurements and calculating with them by algorithm emissions factors in a dynamic way. Before my staff spoke with you about that, have you ever heard from anyone in the EPA that the agency was revamping its emissions inventory in this way?

Mr. CAIN. No, I had not.

Mr. KUCINICH. And do you think, based on what you know so far, that this new procedure is assured of getting the air emissions of mercury from crematoria right, or are there possible complications that could compromise the new inventory system?

Mr. CAIN. I think there are complications. I mean, certainly to have additional stack testing would be a beneficial thing. I think, for some of the reasons I stated in my testimony, you need to be careful that the stack testing is representative and that it is probably a good idea to not rely entirely on stack tests but also to look at techniques such as looking at how much mercury is actually going into the crematoria, which is easier to do than to measure the mercury coming out.

Mr. KUCINICH. So what are some of the difficulties that could get in the way of the EPA's new system of emission factors accurately determining emission factors for mercury air emissions from crematoria and sludge incinerators?

Mr. CAIN. I think the biggest problem is getting representative samples for emissions tests. The other problem is that mercury air emissions testing is difficult to do. It is easier to make mistakes. I mean, it is fairly easy to count fillings in a person's mouth, but more difficult to measure micrograms of mercury per cubic meter of air. So I think it would require a lot of air emissions testing.

Mr. KUCINICH. So what questions do you think Congress should be pursuing with EPA to ensure that their new air mercury emissions aren't as mistaken as the old estimates?

Mr. CAIN. I would think that asking EPA to consider all the available evidence, both stack testing and other types of evidence, would be appropriate.

Mr. KUCINICH. Mr. Reindl, do you have any comment on that?

Mr. REINDL. Besides the comments that Mr. Cain made about the difficulty measuring the stack emissions, what we have found through our literature review is actually much of the mercury doesn't go through the stack, and that they have found that the mercury emissions actually in the office of the crematoria are higher than the emissions outside, suggesting that the emissions are not going necessarily up the stack but are going through leaks, if you will, in the actual cremation unit, and so measuring the emissions from the stack is going to be very, very difficult.

Another point to note is that there is no crematorium in the country that is required to have any air emission controls whatsoever. We have almost no data on an ongoing basis from any crematorium. The one crematory that was used 10 years ago had mainly just a water spray system to reduce some of the dust, but there is no other emissions control on any crematorium in the country otherwise.

Mr. KUCINICH. To staff, one of the things that occurs to me is that as the EPA is going through this process we should call to the EPA's attention experts who are available who have done research

that might enable their process to be enriched by that research. Especially ones who work there. Just a thought.

The Chair recognizes Ms. Watson.

Ms. WATSON. Mr. Brown, you have heard my line of questioning, and you heard the responses that have come from Mr. Walsh. Can you help us understand the position of the ADA? Do you know anything about the American Dental Association and their opposition to the amalgam fillings, the silver fillings?

Mr. BROWN. I don't. In fact, it pains me to have to say I have sort of the same answer that Mr. Walsh did. I can talk to you about the environmental disposition of the mercury once it leaves the dental office, but not the rest.

Ms. WATSON. OK. Well, can you? Maybe that is something that might be compelling as we try to gather more evidence and try to change the ADA's position about amalgams.

Mr. BROWN. Yes, ma'am.

Ms. WATSON. The environmental impact, because we all know that the waste goes to the sewer management and then out into the ocean, and we just heard the emissions. There is no way or they have not come up with a way to capture and to change the particles in the emissions. They go out into the environment.

Can you help us?

Mr. BROWN. Well, one of the things that in preparation for this hearing and listening to the testimony is it occurs to me that I need to go back and ask the Quicksilver Caucus if it has any recommendations to ECOS about incinerators and mercury emissions from crematoria, because that is not an issue that, I mean, we are aware of it and we have looked at it, but we don't have a position on it, and it strikes me that we need to have one.

Ms. WATSON. All right. Mr. Cain, can you help us?

Mr. CAIN. I can note on the question of controlling mercury emissions from incinerators that one of the States in Region 5, Minnesota, has worked on a voluntary basis with the mortuary association in the State and the University of Minnesota, and they have come up with a goal of reducing mercury emissions from crematoria by 75 percent.

Ms. WATSON. Yes.

Mr. CAIN. There is a variety of alternatives that they are going to look at, including alkaline hydrolysis or dechlorinating teeth prior to cremation.

Ms. WATSON. I am aware of many substances, Mr. Brown, that can be used in place of the mercury in the amalgam, and I was told by the National Dental Association that they are too expensive and people will stop coming and bringing their children or coming in for fillings because of the cost.

Does anyone at the table here know of any of the substitutes? Mr. Walsh, you can't speak professionally. You just told me that, so I will refer this to other panelists, maybe Mr. Reindl. The separators, yes, and, Mr. Reindl, can you tell us how we can protect from further pollution of our environment because of the mercury switch?

Mr. REINDL. Well, speaking on the cremation issue, obviously there are two ways to deal with it. One is to remove the teeth prior to cremation, and the other is to control the mercury emissions

during the process or use an alternative process such as the alkaline hydrolysis process. One of the challenges that Minnesota is facing is that they are not sure of what technology can help them meet their goal for stack emissions and, as I mentioned before, not all the emissions to through the stack, so that is a very big challenge.

Ms. WATSON. So we still need more research is what you are saying?

Mr. REINDL. We still need more research. When your Chair noted to staff that EPA ought to involve experts on the cremation issue, I raised my hand to make a note that unfortunately we don't have many experts on this. When I have been doing this literature and survey and contacting people in the field for over 10 years, I have never found anybody at a university in North America that has worked on this. I have never found anybody in the entire world that has done such a survey of references on cremation. In fact, some of the people that I was in contact with in Germany and Norway are no longer involved in it. There simply aren't any experts in this field.

Ms. WATSON. I hear you loud and clear. I think that is one of the reasons why we are having this hearing, and I just appreciate the Chair for allowing me to take part in this hearing. I am on the subcommittee, too. Mercury is a toxic substance that can do harm. I am just shocked that professionals don't understand the harm that mercury can do in a filling, and they are still calling these silver filings. You know, people like gold fillings and silver and so on. I think these mis-statements and holding back this information is very harmful to the health.

Mr. Chairman, I will just end by saying this: I am about this for improving our environment and keeping Americans healthy, and people who only consider the money that comes out of this profession from doing this I think are an abomination to society. I am concerned about the health of young people. I am a victim. And when we come and we bring professionals to this panel and they are not straightforward and honest to us and do not want to share with the public, the public has a right to know about anything that is inserted in their bodies.

It is a proven fact that mercury is a very toxic substance, and I would hope that the dentists would understand and would have the knowledge, Mr. Reindl, of how they are polluting the wastewater. And I would hope that they would not send an attorney who really doesn't understand the chemicals and the ingredients and what makes up an amalgam here to testify in front of this committee, and particularly when I am on it, because I don't buy it.

We have been studying this, Mr. Chairman, for years, and so I would like a professional in front of me that can tell me what they put into a person's mouth and will share that information. We fought for years to get the warnings on smoking, and now almost on everything you buy in a market you can find out the ingredients in there. If you have allergies to peanuts, you had better know there are peanuts in that candy bar you give to a kid, because they can kill you. And if you are a professional medical person and you don't know, you are just as guilty as somebody who put a gun to their head.

With that, I yield back.

Mr. KUCINICH. I thank the gentlelady from California for her participation in this hearing, and all the other Members who participated.

This is the Domestic Policy Subcommittee of Oversight and Government Reform. Today's hearing, Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentists' Offices. We have had two panels of witnesses. I want to thank the panel in front of us for their participation.

This committee will continue to retain jurisdiction over this matter related to various types of mercury toxicity and their circulation in the broader society.

As you can see, there are members of this subcommittee, myself included, who have very strong feelings on this. It is noteworthy because, as chairman, I rely very closely on how the members of my committee feel about what we should pay attention to.

That having been said, to the best of your ability to help us move this along to compliance and to protect the public health would be much appreciated.

With that, this subcommittee stands adjourned. Thank you.

[Whereupon, at 4:22 p.m., the subcommittee was adjourned.]

[Additional information submitted for the hearing record follows:]

EDOLPHUS TOWNS, NEW YORK
CHAIRMAN

DARRELL E. ISSA, CALIFORNIA
RANKING MINORITY MEMBER

ONE HUNDRED ELEVENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

2157 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6143

Majority (202) 225–5051
Minority (202) 225–5074

June 11, 2010

Mr. Al Dube
National Sales Manager, Dental Division
SolmeteX
50 Bearfoot Road
Northborough, Massachusetts 01532

Dear Mr. Dube:

In connection with the May 26, 2010 hearing of the Domestic Policy Subcommittee, entitled, ***"Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentist Offices,"*** I hereby request that you provide answers in writing to the following Questions for the Record:

1) What factors determine the cost of purchasing and installing an amalgam separator in a dental office?

    a. What is the typical cost for a typical dental office customer of SolmeteX?

    b. What are the typical annual operating costs associated with dental office use of amalgam separators?

2) Would amalgam separator manufacturers be able to accommodate a rapid increase in demand by dental offices for separators?

3) Most state and local regulations encouraging the use of amalgam separators have given dentists a several year period of transition before mandatory requirements apply.

    a. Is there a justification for providing for a transition period from the perspective of amalgam separator manufacturers?

b. How much time would you recommend dentists be given prior to the start of a mandatory requirement that they install and use amalgam separators?

4) Most environmental pollution control technologies require regular maintenance to work effectively.

a. What is the prescribed maintenance schedule for a typical amalgam separator?

b. What effect on an amalgam separator's performance occurs if the advised maintenance is not performed timely?

c. Do you have statistics on the frequency with which amalgam separators receive timely maintenance?

The Oversight and Government Reform Committee is the principal oversight committee in the House of Representatives and has broad oversight jurisdiction as set forth in House Rule X. An attachment to this letter provides information on how to respond to the Subcommittee's request.

We request that you provide responses to these questions as soon as possible, but in no case later than **5:00 p.m. on Friday, June 25, 2010**. If you have any questions regarding this request, please contact Jaron Bourke, Staff Director, at (202) 225-6427.

Sincerely,

Dennis J. Kucinich
Chairman
Domestic Policy Subcommittee

cc: Jim Jordan
Ranking Minority Member

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ONE HUNDRED ELEVENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

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Domestic Policy Subcommittee Document Request Instruction Sheet

In responding to the document request from the Domestic Policy Subcommittee, Committee on Oversight and Government Reform, please apply the instructions and definitions set forth below.

Instructions

1. In complying with the request, you should produce all responsive documents in your possession, custody, or control.

2. Documents responsive to the request should not be destroyed, modified, removed, transferred, or otherwise made inaccessible to the Subcommittee.

3. In the event that any entity, organization, or individual denoted in the request has been, or is currently, known by any other name than that herein denoted, the request should be read also to include them under that alternative identification.

4. Each document produced should be produced in a form that renders the document capable of being copied.

5. When you produce documents, you should identify the paragraph or clause in the Subcommittee's request to which the documents respond.

6. Documents produced in response to this request should be produced together with copies of file labels, dividers, or identifying markers with which they were associated when this request was issued. To the extent that documents were not stored with file labels, dividers, or identifying markers, they should be organized into separate folders by subject matter prior to production.

7. Each folder and box should be numbered, and a description of the contents of each folder and box, including the paragraph or clause of the request to which the documents are responsive, should be provided in an accompanying index.

8. It is not a proper basis to refuse to produce a document that any other person or entity also possesses a nonidentical or identical copy of the same document.

9. If any of the requested information is available in machine-readable or electronic form (such as on a computer server, hard drive, CD, DVD, memory stick, or computer backup tape), you should consult with Subcommittee staff to determine the appropriate format in which to produce the information.

10. The Committee accepts electronic documents in lieu of paper productions. Documents produced in electronic format should be organized, identified, and indexed electronically in a manner comparable to the organizational structure called for in (6) and (7) above. Electronic document productions should be prepared according to the following standards:

    (a) The production should consist of single page TIF files accompanied by a Concordance-format load file, an Opticon reference file, and a file defining the fields and character lengths of the load file.

    (b) Document numbers in the load file should match document Bates numbers and TIF file names.

    (c) If the production is completed through a series of multiple partial productions, field names and file order in all load files should match.

11. In the event that a responsive document is withheld on any basis, you should provide the following information concerning the document: (a) the reason the document is not being produced; (b) the type of document; (c) the general subject matter; (d) the date, author, and addressee; and (e) the relationship of the author and addressee to each other.

12. If any document responsive to this request was, but no longer is, in your possession, custody, or control, you should identify the document (stating its date, author, subject and recipients) and explain the circumstances by which the document ceased to be in your possession, custody, or control.

13. If a date or other descriptive detail set forth in this request referring to a document is inaccurate, but the actual date or other descriptive detail is known to you or is otherwise apparent from the context of the request, you should produce all documents which would be responsive as if the date or other descriptive detail were correct.

14. This request is continuing in nature and applies to any newly discovered document. Any document not produced because it has not been located or discovered by the return date should be produced immediately upon location or discovery subsequent thereto.

15. All documents should be bates-stamped sequentially and produced sequentially. In the cover letter, you should include a total page count for the entire production, including both hard copy and electronic documents.

16. For paper productions, four sets of documents should be delivered: two sets to the majority staff and two sets to the minority staff. For electronic productions, one dataset to the majority staff and one dataset to minority staff are sufficient. Productions should be delivered to the majority staff in B-349B

Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building. You should consult with Subcommittee staff regarding the method of delivery prior to sending any materials.

17. Upon completion of the document production, you should submit a written certification, signed by you or your counsel, stating that: (1) a diligent search has been completed of all documents in your possession, custody, or control which reasonably could contain responsive documents; and (2) all documents located during the search that are responsive have been produced to the Subcommittee or identified in a privilege log provided to the Subcommittee.

SolmeteX™ The Power of Applied Science™

Representative Dennis J. Kucinich
Chairman, Domestic Policy Subcommittee
House of Representatives
2157 Rayburn House Office Building
Washington, DC 20515-6143

Dear Rep. Kucinich,

Thank you for the opportunity to respond to additional questions related to the May 26, 2010 Domestic Policy Subcommittee hearing "Assessing EPA's Efforts to Measure and Reduce Mercury Pollution from Dentists Offices". I apologize for my absence and being unavailable for questions during the hearing itself. Thank you for your condolences mentioned during the hearing.

1) **What factors determine the cost of purchasing and installing an amalgam separator in a dental office?** There are two factors relative to the initial cost of an amalgam separator, the system and the installation. System costs have been exaggerated by both the United States Environmental Protection Agency and the American Dental Association. Each organization looked at the average price based on all the amalgam separators available without consideration of system size as they relate to dental facilities (Health Services Industry Detailed Study, Dental Amalgam (August 2008)). An amalgam separator for a dental school is dramatically more expensive than a 3-6 operatory dental practice. Approximately 60 dental schools operate in the United States compared to greater than 100,000 small dental facilities. Including the cost of a dental school system in the average significantly inflate the average cost. In reality 90 - 95% of dental facility recommended for amalgam separators use would have 6 operatories or less. Estimates for this segment of the market are where I will focus my cost estimates.
   Installation is simple in most situations, cutting a pipe and attached on side to the inlet of the separator and the other side to the discharge of the separator. Dependent upon state and local plumbing codes, local dental dealers or plumbers would install the amalgam separator. Installation on average less than an hour to install would take dependent upon the complexity of the installation.

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a.) **What is the typical cost for a typical dental office customer of SolmeteX?**
SolmeteX provides amalgam separators to the dental industry through a dental supply dealer network. The suggested retail price for the systems serving 90 – 95% of the facilities would be $750.00. It should be noted that dental supply companies often discount from the suggest retail price however for worst case, $750.00 is relevant. Installation for the average dental practice should take less than an hour at a cost of $250.00 - $300.00. This is in line with the industries $1,000 average for amalgam separator purchase and installation.

b.) **What are the typical annual operation costs associated with dental offices use of amalgam separators?**
Annual operating costs are based on the number of collection containers replaced annually. At a suggested retail cost of $285.00 to replace ship and dispose of the used container if properly maintained costs would be $285.00 - $570.00 annually. It should be noted, current SolmeteX sales data shows collection containers are replaced approximately once every 1.2 years.

2) **Would amalgam separator manufactures be able to accommodate a rapid increase in demand by dental offices for separators?**
Recently, SolmeteX offered the American Dental Association an opportunity to provide amalgam separators to all 120,000 dental facilities in the United States within an 18 month period. Assuming approximately 30,000 – 35,000 dental facilities currently have an amalgam separator installed, as submitted in my previous testimony, approximately 85,000 – 90,000 additional separators would be needed. SolmeteX has the capability to supply these systems within a 12 month period should demand justify the necessity for investing in the materials and hiring of additional work force. With the addition of other manufactures also supplying amalgam separators, there is no question demand could and would be met.

3) **Most State and local regulations encouraging the use of amalgam separators have given dentists a several year period of transition before mandatory requirements apply. a.) Is there justification for providing for a transition period from the perspective of amalgam separator manufactures?**
SolmeteX sales data suggests the vast majority of amalgam separators purchased is within the last 4 months prior to the installation deadline establish by regulatory authorities (Attachment A). Long transition times do not affect the phenomena as demonstrated by the sales data. A significant benefit or threats of mandatory requirements have shown a dramatic effect on shifting the purchasing of amalgam separators demonstrated by the Massachusetts sales data.

b.) How much time would you recommend dentists be given prior to the start of a mandatory requirement that they install and use amalgam separators?
The state of Connecticut provided 5.5 months for the purchase and installation of amalgam separators. Approximately 80% of the 2,300 dentists complied within the time provided suggesting it is possible with short transition periods. The process of creating a national requirement could take from six months to a year. A one year transition period translates to 18 months to 2 years period before an established deadline for installations. Under the Memorandum of Understanding signed by the US EPA, ADA and NACWA, ADA testified a goal had been set of 25% installation of amalgam separators in non-regulated states this year and a 20% installation of amalgam separator in subsequent years. If this goal is demonstrated it reduces the need for long transition periods. I recommend no more than a one year transition period based on manufactures capabilities and the history of separator sales into the dental industry.

4.) Most environmental pollution control technologies require regular maintenance to work effectively. a.) What is the prescribed maintenance schedule for a typical amalgam separator?
Separator manufactures recommend annual maintenance as a whole. SolmeteX provides a clear system and recommends the collection container be changed when solids reach the full indicator. On average this should occur every 6 – 12 months. Other manufactures schedule annual changes of collection containers.

b.) What effect on an amalgam separator's performance occurs if the advised maintenance is not performed timely?
Dental vacuum is critical to the operation of a dental facility. Air flow in a dental vacuum line is vital for moving liquids and solids through the vacuum system. Amalgam separators are designed to allow vacuum air flow to by-pass the collection vessel thus not impeding or restricting the air flow within the piping. Separator collection vessels have limited capacities. If the capacity of the collection vessel is exceeded solids and liquids build in the amalgam separator until the air flow by-pass is reached. If the level of liquid and or solids reach the air flow by-pass the effectiveness of the amalgam separator is limited if not completely useless. In effect, the system becomes an additional piece of pipe in the vacuum line with little if any collection capability. Regular maintenance is recommended to prevent the opportunity for by-pass of liquids and or solids. Currently two methods are used to demonstrate maintenance, annual reporting and physical inspections. Inspection can be hindered as most amalgam separators are solid or opaque hiding the operational functionality of the system in the field. Clear systems provide an opportunity to visually inspect the operation and properly maintain the system should the system become clogged or collect beyond the collection vessels capacity prematurely.

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c.) **Do you have statistics on the frequency with which amalgam separators receive timely maintenance?**
SolmeteX replacement collection container sales indicate replacement containers are being sold approximately one every 1.2 years (Attachment B). This suggests the amalgam separators in service on average are not being maintained as recommended.

In conclusion, the dynamics for the dental industry is such that the largest number of facilities discussed for use of amalgam separators would purchase the lowest end of the manufactures price and system scale. Operational costs would similarly fall in the lowest end of the cost spectrum. Large facilities would have a greater patient load, the reason for the larger system, requiring a more costly system, however, these are only a small overall percentage of the total facilities suggested to need amalgam separators. Maintenance is relevant to prevent amalgam and the mercury within it from entering the sewer system.

Sincerely

AL Dubé
National Sales Manager, Dental Division
SolmeteX, a division of Layne Christensen

Attachment B

SolmeteX
Yearly Sales Comparison

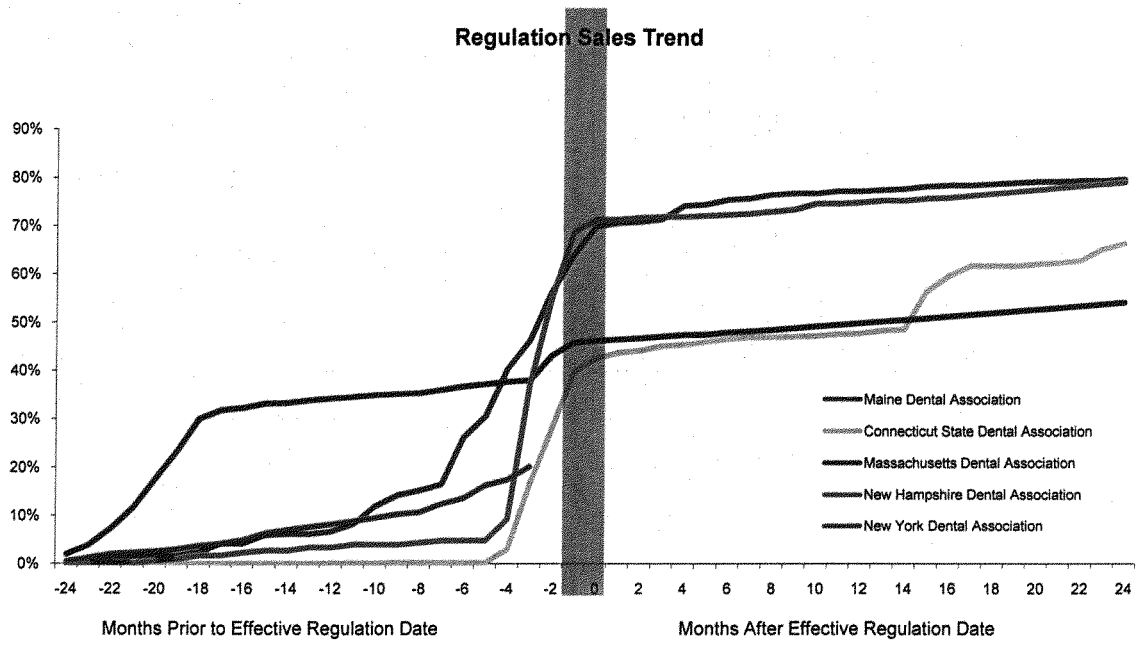
13 Months

Units	2001		2002		2003		2004		2005		2006		2007		Jan-Dec 2008		Jan 09-Jan 10 2009		Total
US																			
Hg5	252	[redacted]	147	[redacted]	2,040	[redacted]	3,252	[redacted]	2,508	[redacted]	2,164	[redacted]	3,365	[redacted]	5,123	[redacted]	3,720	[redacted]	22,571
Containers	224	[redacted]	293	[redacted]	1,435	[redacted]	2,768	[redacted]	5,343	[redacted]	7,630	[redacted]	9,877	[redacted]	12,221	[redacted]	15,589	[redacted]	55,380
USA Totals	476	[redacted]	440	[redacted]	3,475	[redacted]	6,020	[redacted]	7,851	[redacted]	9,794	[redacted]	13,242	[redacted]	17,344	[redacted]	19,309	[redacted]	77,951
Rate			102%		232%		80%		63%		66%		87%		80%		78%		

6/24/20102:27 PM

Attachment A

Sales of System



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This document certifies that I have written the answers to all questions in the best and most qualified way I can. I submit these answers would be similar either here in writing or if they were asked at the congressional subcommittee hearing under oath. The Attachments provided are responsive documents relative to the comments within this response.

AL Dubé
National Sales Manager, Dental Division
SolmeteX, a division of Layne Christensen

Alternative identification
Alfred Dubé

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