

Metro Water Services
Dental Amalgam Program (DAP) Policy

RATIONALE:

1. MWS is required to prevent toxic metals from entering the wastewater treatment system.
2. MWS has prepared a guide to assist in the enforcement of USEPA rule in 40 CFR 441 mandating amalgam separator technology at dental facilities.
3. The management of an effective DAP policy with dental facilities will prevent toxic metals from entering the treatment system and reduce the operational costs of MWS.

POLICY:

1. **Scope & Purpose:** To prevent the discharge of potentially toxic metals used in dental amalgams (e.g. mercury, silver) into the publically owned treatment works (POTW). The Metro Water Services (MWS) DAP Policy was originally adopted July 14, 2017 to comply with federal rule 40 CFR 441.
2. **Definitions:**
 - a. Amalgam: A metallic alloy of mercury and other metal(s), such as silver, tin, copper, or zinc.
 - b. Amalgam Separator Technology (AST): Any in-line system for separating and retaining waste amalgam suspended in wastewater prior its exit from the DO and entering the MWS sewer system.
 - c. American Dental Association (ADA): Professional organization for dental practice.
 - d. Best Management Practice (BMP): Industry standard methods or techniques that are regarded as superior to other means for the mitigation of water pollution.
 - e. Blackwater: Wastewater containing human waste from sanitary fixtures such as toilets and urinals.
 - f. Capture device: A replaceable capsule fitted for AST that holds the separator's solid amalgam waste and is removed and sent for proper disposal/recycling when its capacity is reached.
 - g. Dental Office (DO): Any establishment, business, or facility practicing the installation or removal of dental amalgam. Other dental facilities that do not install or remove amalgam (e.g. maxillofacial surgeons, periodontists, orthodontists) are not included in this definition.
 - h. Graywater: Refers to all other wastewater other than black water as defined in this section.
 - i. Metro Water Services (MWS): The Department of the Metropolitan Government of Nashville and Davidson County, Tennessee responsible for all matters regarding drinking water and wastewater within its jurisdiction, or its designee. Its jurisdiction may include independent municipalities without Davidson County that utilize its POTW. Its jurisdiction does not include facilities within Davidson County that do not utilize its POTW.
 - j. Notice of Violation (NOV): A document addressed to the DO that a practice, action, or wastewater discharge is noncompliant with regulations or policies codified in the SUO. A NOV informs the user that an action is required of the user within a specified timeframe designated by MWS risk escalating enforcement action against the DO.

- k. POTW (Publicly Owned Treatment Works): A POTW is a wastewater treatment facility and its entire infrastructure that is owned by a state or municipality.
- l. Series: (Amalgam separators installed in series): AST devices that are installed one after another in a row and are connected by plumbing pipe.
- m. Sewer Use Ordinance (SUO): Chapters 15.04 and 15.60 of the *Code of Ordinances of the Metropolitan Government of Nashville and Davidson County, Tennessee*.
- n. Toxic Metals: Including “Heavy Metals,” are individual metals and metal compounds that negatively affect people’s health, or may build up in biological systems and become a significant health hazard.
- o. Vacuum: A negative pressure waste removal system commonly used in dental practices.

3. Operation Requirements:

- a. *Applicability*
 - i. All existing DOs are required to have AST installed, maintained and operating properly in order to receive a DAP permit by July 14, 2020.
 - ii. Any dental practice that does not fit the definition of a DO (see 2.g) must also apply for a DAP permit and prove exemption.
- b. *Wastestream* - AST is required to receive any graywater that may receive amalgam waste. This includes fixtures such as chair-side traps and vacuum lines. No DO will allow amalgam wastewater to bypass the AST for any reason.
- c. *Record keeping* - All DOs will be required to maintain records of cleaning, maintenance, and personnel training of AST or its capture device. Maintenance records include, at a minimum, the date of cleaning/maintenance, company or person conducting the cleaning/maintenance, and documents regarding the proper disposal of its capture device.
- d. *Records availability* - AST maintenance records shall be available on the DO premises so they can be provided to Metro Water Services or their designee, and/or the Metro Health Department. The DO shall maintain these records for three (3) years.
- e. *Solids* - All DOs are required to dispose of AST waste solids into an approved capture device where it must remain until received at a certified disposal site.
- f. *Certification*
 - i. MWS reserves the right to inspect and certify AST annually.
 - ii. Certification can only be performed by a MWS-approved inspector.
 - iii. If the AST “Passes” the certification requirement, then no further action is required.
 - iv. If the AST “Fails” the certification requirement, then a corrective action response is required from the DO owner or authorized representative to MWS.
 - v. If a DO transfers ownership, the new owner must seek certification within ninety (90) days of transfer.
- g. *Certification Failure* – If AST fails due to malfunction, the DO is required to repair or replace AST within ten (10) days. If AST fails certification for any other reason, the DO is required to submit a detailed “Corrective Action Response” to MWS within thirty (30) days. The “Corrective Action Response” must include the reason for the failed certification, what corrective action will be taken to address the failure, and the date the corrective action will be completed.
- h. *Cleaning* - AST must be cleaned as per manufacturer’s specifications. If a representative from MWS inspects the AST and determines that this condition has not been met, the DO may receive a Notice Of Violation (NOV). Capture devices must be sealed from leaks during transport to their approved disposal facility.

- i. *Prohibition of Certain Cleansers* - Use of oxidizing cleaning agents in the wastewater lines leading to AST is not permitted. Examples of such agents are bleach, chlorine, iodine, peroxide, or any other detergents with pH <6 or >8. This includes the rinse waste from using such agents on non-wastewater lines.
- j. *Prohibition of Flushes* - Flushing amalgam waste from chair-side traps, screens, vacuum pump filters, dental tools, or collection devices into any drain is not permitted.
- k. *BMPs* - DO must remain aware of and comply with other BMPs endorsed by the ADA with regard to amalgam waste control.

4. Installation Requirements

- a. *New Dental Offices, Upgrading of Existing Dental Offices, or Change of Ownership of Existing Dental Offices*
 - i. Any new DO, upgrading of an existing DO or change of ownership of existing DO are required to install and maintain AST.
 - ii. DOs in any of these categories must submit a DAP plan to MWS for approval.
 - iii. The DAP plan includes identification of all plumbing fixtures and drains, as well as plans for the AST and its location.
 - iv. Metro Water Services will review the DAP plan and approve or make changes as necessary to aid in the prevention of amalgam discharge.
- b. *Graywater only* - New construction of DOs shall have separate sanitary (restroom) and amalgam waste lines. The amalgam waste lines shall be plumbed to AST. No blackwater shall be plumbed to the AST.
- c. *Approved AST* – MWS accepts any AST that is tested by ISO 11143 to be 98% efficient.
- d. *Installation*
 - i. AST must be installed according to its manufacturer's specifications.
 - ii. AST must be permanently accessible for cleaning, maintenance, repair and inspection.
 - iii. AST should be installed as close to discharge point as practical.
 - iv. AST must be installed so that its manufacturer, model number, limits, date of manufacture, capture device, flow restrictor (if included), inlet, and outlet are visible.
- e. *Sizing* - DOs must install AST of sufficient capacity to receive the maximum amount of potential flow, based upon its manufacturer's specifications for retention time. If lack of space makes it impossible to install AST of sufficient size, AST installed in series may be acceptable.
- f. *Inspection* - All new DOs and DOs that have upgraded their facilities must contact MWS for final inspection and approval of the AST. This approval serves as its first annual certification. Failure of the DO to contact MWS in this regard may result in escalation of enforcement action.

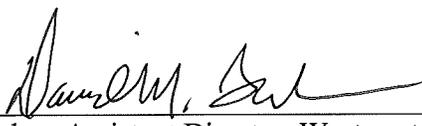
5. Rights and Responsibilities

- a. *Responsibility* - All matters pertaining to compliance with the DAP permit are the responsibility of the DO owner.
- b. *Compliance* - Any violation of the policy as stated herein may be considered by MWS to be noncompliance, and a NOV may be issued to the responsible DO.
- c. *Right of Entry*
 - i. MWS shall have the right to enter the premises of any DO to determine whether the DO is complying with the requirements of this policy and/or the SUO.

- ii. DOs shall allow MWS, upon presentation of proper credentials, full access to all parts of the premises for the purpose of inspection, monitoring, and/or records examination.
- iii. Unreasonable delays in allowing MWS personnel access to the DO premises shall be a violation of this policy and the SUO.
- d. *Monitoring* - MWS may require that the DO install monitoring or additional pretreatment equipment deemed necessary for compliance with this policy and/or SUO.
- e. *High Concentration Levels* – In the event that MWS monitors discharge from the DO into the POTW and determines through laboratory analysis that its metal concentrations exceed limits, further enforcement action may be warranted.
- f. *Fee Option* - MWS may charge inspection, monitoring, assessment, impact, and permit fees to the DOs to get reimbursement for DAP costs.
- g. *Enforcement Action* - When DOs fail to respond to a NOV, enforcement action may be warranted. Such action may include, but is not limited to, compliance orders, penalty assessments, and termination of DAP permit. Please refer to the Industrial Enforcement Response Guide for more information.
- h. *No Grandfathering*
 - i. Existing DOs will be phased into compliance through their DAP permit and a Compliance Schedule.
 - ii. The Compliance Schedule will be an Agreed Schedule, with all DOs coming into compliance with this policy by July 14, 2020.
 - iii. Existing DOs with AST already installed may keep it in place if:
 1. it meets ISO 11143 testing at $\geq 95\%$ removal efficiency
 2. it has not operated for >10 years from its installation date
 3. all other conditions of the DAP policy are met

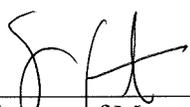
Effective Date: July 14, 2017

Recommended:

Signed 
 David Tucker, Assistant Director, Wastewater Operations

Date: 7/24/17

Approved:

Signed 
 Scott Potter, Director of Metro Water Services

Date: 24 July 17