



# Department of Environmental Services

Monroe County, New York

**Maggie Brooks**  
*County Executive*

**John E. Graham, P.E.**  
*Director*

## Monroe County Division of Pure Waters Code of Management Practice for Silver Dischargers Program

### General Description

---

Monroe County Division of Pure Waters is implementing a new regulatory program for image processors, known as the Code of Management Practice (CMP). This program establishes Best Management Practices for image processing facilities, for the purpose of controlling and reducing silver discharged to our wastewater treatment plants. The sectors covered by the CMP include: Photofinishing, Commercial Imaging, Diagnostic and X-Ray film processors.

The CMP was jointly developed by the Silver Council and the Association of Metropolitan Sewerage Agencies (AMSA) now known as The National Association of Clean Water Agencies (NACWA) to reduce and control the amount of silver discharged to our wastewater treatment plants. Cities, counties and states have adopted the CMP across the United States. It has proven successful in 1) reducing the amount of silver discharged to wastewater treatment plants; 2) increasing the amount of silver recovered; 3) easing the administrative burden on both the wastewater treatment facility and silver users; 4) encouraging water conservation and pollution prevention efforts.

The CMP presents an alternative method of controlling silver discharges from image processors. The CMP does not rely on typical concentration based (numerical) discharge limits used by most wastewater treatment facilities to control the amount of silver discharged. With concentration-based limits, all facilities generating silver-bearing waste must comply with the same regulations, regardless of their size or the amount of silver-bearing waste they generate. Under the CMP, each sector has a best management plan (BMP). The BMP sets a performance goal based on the size of the facility. The performance goal is set by the total gallons per day of photo processing effluent generated by the facility. The BMP also specifies silver recovery methods, testing requirements, record-keeping requirements, or recommends alternative waste management options that are to be conducted as part of the program.

The CMP establishes a set of operating procedures designed to reduce both the amount of silver and the overall volume of solution discharged while using economically viable and currently available silver recovery techniques.

### Numerical Limits vs. CMP Program

---

All facilities must adopt and implement the CMP or other "Approved Best Management Practice Plan" (ABMP)\* or operate under a Monroe County Sewer Use Permit. Those facilities that operate under the CMP are required to maintain treatment system performance documentation and follow the requirements of the CMP. Those facilities not following the CMP or an ABMP must meet the numerical limit and will be permitted. Permitted facilities are required to maintain treatment performance documentation and may be subject to periodic analytical testing by a certified lab at the facility's expense. The Monroe County Sewer Use limit for silver discharge is 2.0-mg/l. Photo processing facilities currently operating under a discharge permit and which would like to change to the CMP program must submit a letter of intent to Monroe County Pure Waters.



\*ABMP - Photolabs with multiple locations which have similar silver recovery equipment, and follow similar silver recovery system maintenance plans and which have representative silver recovery system performance analytical data "objective data" may request approval of their ABMP as an approved pretreatment program.

**Category Determination**

Compliance with the CMP program is simple. First determine the total volume of process effluent generated by your photo processing operations on a typical day. Processing effluent includes all photographic processing solutions and wastewater generated by your photographic processing operations.

**“Total Volume” Determination Methods:**

1. Follow the guidance established in the **BMP Category Determination Chart** below.
2. Use your facility water bill and photochemical usage data. To determine the amount of water used for photoprocessing you should subtract from your total gallons per day (gpd) any water not used in the photoprocessing operations; including domestic sewage (15 gpd/per employee), landscape irrigation, or non-contact cooling water.

Maintain a written record of your category determination to demonstrate how you determined this total volume. The CMP sector guidebooks ([www.silvercouncil.org](http://www.silvercouncil.org)) will help you calculate the total processing effluent volume. Review your category determination annually to determine if your volume has changed. The total volume of processing effluent will determine the category or size of your facility (small, medium or large) and the percentage of silver that must be recovered from the silver-rich solutions prior to discharge.

**BMP Categories** (volumes are in gallons per day or gpd):

- Very Small/Small:** less than 100 gpd of total process effluent (Monroe County Requirement is different from the Silver Council’s total process flow of 1000 gpd).
- Medium:** less than 10,000 gpd of total process effluent
- Large:** less than 25,000 gpd total process effluent

Facilities discharging more than 25,000 gpd of photoprocessing effluent are defined as Significant Industrial Users (SIUs) by the United States Environmental Protection Agency. Monroe County is required to permit and monitor all SIUs whether or not they have implemented the CMP or other BMP.

**BMP Category Determination Chart**

Type of Film Processed	Small	Medium	Large
Dental	1 - 75	76 - 7,500	N/A
General Purpose	1 - 10	11 - 900	901 - 24,000
Mammography	1 -25	26 - 2,500	2,501 - 24,000
Industrial X-Ray	1 - 5	6 - 400	401 - 6,000
<b>Number of Films Processed/Day</b>			



## Silver Recovery Requirements

For each user category there are recommended technology options and specified percentage levels of silver that need to be recovered from the **silver-rich solution(s)\*** generated. These recommended technologies and required silver recovery amounts are:

Small – 90% Silver Recovery	Medium – 95% Silver Recovery	Large – 99% Silver Recovery
<ol style="list-style-type: none"> <li>1. One or two metallic replacement cartridges (MRCs)</li> <li>2. Off-site management</li> <li>3. Alternative technology providing at least 90% silver recovery</li> </ol>	<ol style="list-style-type: none"> <li>1. Terminal electrolytic unit followed by a metallic replacement cartridge (MRC)</li> <li>2. In-line electrolytic unit with a metallic replacement cartridge</li> <li>3. Two or more MRCs with manufacturer-specified flow control</li> <li>4. Off-site management</li> <li>5. Alternative technology providing at least 95% silver recovery</li> </ol>	<ol style="list-style-type: none"> <li>1. Terminal electrolytic unit followed by a metallic replacement cartridge (MRC)</li> <li>2. In-line electrolytic unit with a metallic replacement cartridge</li> <li>3. Off-site management</li> <li>4. Alternative technology providing at least 99% silver recovery</li> </ol>

**\*Silver Rich Solution** - A solution containing sufficient silver that cost-effective recovery could be done either onsite or offsite (i.e. fixers, bleach-fixers, plumbless stabilizers, low-flow washes or other similar solutions).

It is important to note, the silver recovery percentage amounts required under the CMP program deal only with the silver-rich solutions generated at your facility (total process effluent).

### CMP Record Keeping and Analytical Requirements

Maintain a written record of your category determination that demonstrates how you determined this volume.

Facilities conducting on-site silver recovery must maintain, in a designated logbook, maintenance records for the silver recovery equipment. These records must be kept at your facility for a minimum of three years.

Very small/small, medium and large facilities that conduct silver recovery on-site must perform simple monthly tests using silver test paper or copper strips to verify that the silver recovery equipment is functioning properly. Large category photo processing facilities must perform an annual analytical test to verify compliance with the prescribed silver recovery percentage requirement for facilities of that size. Results of these silver strip tests and or annual analytical tests must be kept on site at your facility for at least three years in a designated logbook.

#### **Analytical Testing** (large category facility only)

A laboratory certified by the New York Department of Health, Division of Laboratory Certification, must conduct all analytical tests. It is important to note that Division certification does not necessarily qualify a lab to test your photo processing waste solutions for silver. Once you have selected a lab, you should verify that it is qualified to test for silver.



## **Off-Site Management**

Facilities using off-site disposal of silver rich solution must:

1. Store the silver-rich solution in a container compatible with film processing solutions.
2. Comply with all applicable hazardous waste and DOT regulations.
3. Keep records of volumes and types of solutions transferred off-site.
4. Maintain logs, hazardous waste manifests and other records for at least three years.

