

What Can Be Done to Fix MP&M?

By Frank Altmayer, CEF

Because the Metal Products & Machinery (MP&M) proposed rule is of vital interest to surface finishing shops, we are deviating from the regular format of "Advice & Counsel" in this "Environmental Excellence" edition of *P&SF*. The information presented here by AESF Technical Director Frank Altmayer, CEF, can be used by shops to try to convince regulatory officials that the proposed limits are unrealistic.

Dear Advice & Counsel,

My company wishes to provide data to the EPA, in an effort to demonstrate to them that the proposed MP&M regulations do not reflect reality. However, we need guidance on the best way to accomplish this goal. Specifically, we don't know how to go about sampling. HELP!

Signed,
I. M. Outraged

Dear Outraged,

As much as possible, you want your sampling to mirror the type of sampling the EPA contractor performed (assuming they did it right). As of this writing, we have been able to obtain four "SERs" (sampling episode reports) from EPA, and we have reviewed them to obtain information on the effort needed to gather data for submission. I have prepared the following instructions, based upon information available to me at this time and our interpretation of EPA's language in the proposed MP&M rule.

I have prepared a step-wise guidance for sampling for heavy metals, sulfide and cyanide, based on my best judgment. **This step-wise guidance can be downloaded from aesf.org.** It is copyrighted, but anyone has permission to download this file and print it out for his own internal use. This guidance may be updated, so before you start to do the actual sampling, download the latest version

(each version is dated for your convenience).

If you wish to submit data on other regulated parameters, please contact me via e-mail, your local laboratory or consultant for guidance.

Aside from the sampling and analytical work you will need to do, the following additional information is required/desired by EPA:

1. **Flow measurements/estimates**—

EPA wants you to measure/estimate the inflow and outflow flow rates of each treatment unit (cyanide destruct, chromium reduction, metals removal). EPA contractors used in-place flow meters, when available, but also used estimates based upon information provided by plant personnel. Estimates may be obtained by adding up all of the individual rinses going to a treatment unit, for example. If the flow rate cannot easily be measured, contact your consultant for guidance. Flow rate estimates need not be made each day, unless process flow changes occur during the sampling period.

2. **A process diagram of treatment system**—This can be a simple block diagram that illustrates how treatment proceeds. Average flow rates should be shown on the diagram. Treatment chemical addition rates should also be shown or should be provided separately (see below). The diagram must also show sampling points for generating the analytical data.

3. **Treatment chemical addition rates**—The EPA subcontractors used purchasing records of treatment chemicals to calculate the average treatment chemical usage for each process. You might wish to do the same.

4. **Sludge or waste oil generation rates**—EPA wants to be provided with the generation rate of sludge and/or oil for a treatment system. We suggest you use disposal records over a period of at least a

year to arrive at an average rate of generation.

5. **Discussion of treatment technology**—Provide a brief discussion of the technology that is employed for treatment. The AESF Wastewater Treatment Course materials (available for purchase from AESF 407-281-6441) contains generic descriptions of conventional treatment methods. Your design engineer should also be able to provide you with this information.

6. **List of unit operations contributing to the sampled wastewater stream**—For each portion of a treatment system sampled, EPA wants identification of the operations that contribute to the wastewater being treated. For example, the cyanide destruct system may treat waste from cyanide zinc and cyanide copper plating.

7. **Capital costs & treatment capacity, "if possible"**—This information is not mandatory, but may assist in counteracting EPA's economic justification. Treatment capacity can be obtained from the original design documents or from your supplier of the system. Take great care that the design capacity is not exceeded during your sampling episode, because your data will then be thrown out.

Once again, for a detailed outline of the MP&M Sampling Guidance, go online to www.aesf.org.

About the Author



Frank Altmayer, CEF, is president of Scientific Control Laboratories, Inc., 3158 Kolin Ave., Chicago, IL 60623-4889. He serves as technical director of AESF, and is a regular columnist for *P&SF*. He can be reached by email: mfconsultant@msn.com.