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AESF/EPA Pollution Prevention Training Course for Metal Finishing

The AESF has been awarded a U.S. EPA grant of \$300,000, under the EPA's Environmental Technology Initiative, for the creation of a pollution prevention training course for metal finishing. This course is targeted primarily at managers and operators in small to large jobshops and captive finishing facilities in the U.S., Canada and Mexico. It is estimated that there are approximately 6,700 jobshops and an even greater number of captive facilities in the U.S. alone.

The industry currently has no comprehensive training materials to train industry personnel in pollution prevention technologies and practices and, more importantly, in the application of those technologies and practices to real processes.

Phase 1

The first phase of the project is to develop training materials that will consist of the following modules:

1. Needs & Opportunities for Clean Technologies and Pollution Prevention
2. Economics of Applying Pollution Prevention
3. Plant Assessment Procedure
4. Good Operating Practices
5. Review of Wastewater Treatment in Metal Finishing Facilities
6. Review of Technologies for Process Bath Maintenance and Metals Recovery
7. Overview of Opportunities for Management of Specific Processes
8. Pollution Prevention Practices in Acid Pickling
9. Pollution Prevention Practices in Anodizing
10. Pollution Prevention Practices in Cadmium Plating

11. Pollution Prevention Practices in Chromium Plating
12. Pollution Prevention Practices in Chromating
13. Pollution Prevention Practices in Cleaning
14. Pollution Prevention Practices in Copper Plating
15. Pollution Prevention Practices in Nickel Plating
16. Pollution Prevention Practices in Tin-Lead Plating
17. Pollution Prevention Practices in Stripping Plated Coatings
18. Pollution Prevention Practices in Zinc Plating
19. Substitution of Existing Metal Finishing Processes with Cleaner Ones
20. Case Studies of Successful Pollution Prevention Applications

Although we cannot claim that this is an absolutely comprehensive coverage of surface finishing, the above modules lay a solid foundation from which to introduce applied pollution prevention and to develop additional future modules.

The project was initially conceived by the AESF Environmental Committee and, subsequently, the AESF Pollution Prevention and Control Committee. During preliminary planning meetings, it was decided that the project scope was too great to accomplish with an all-volunteer effort, so we contacted the U.S. EPA and the Wastewater Technology Centre of Canada for assistance. Environment Canada, the Ontario Ministry of Environment, and the Wastewater Technology Centre have developed a pollution prevention planning protocol and training materials, which overlap the first six modules of the proposed workshop.

AESF staff members—in particular, Sylvia Baxley, *P&SF* editor; Audrey Shields, staff accountant; and Frank Altmayer, CEF, technical director—and Bill Sonntag, director of Joint Government Relations, and Derek Vachon, Wastewater Technology Centre, were all instrumental in preparing the winning proposal. Thank you for the great effort.

The course materials will be developed by the following group of subcontractors who helped put together the EPA proposal.

- CAI Engineering
- Integrated Technologies, Inc.
- Pollution Prevention International
- Scientific Control Labs
- UMR Systems
- Wastewater Technology Centre

The grant also involves in-kind contributors. In-kind contributors include AESF, the Cleveland Area Manufacturing Processes center (CAMP) of the National Institute of Science and Technology (NIST), and Concurrent Technologies Corp., Johnstown, PA.

Phase 2

Phase 2 will involve presentation of the materials in a series of workshops in the following locations: Midwest U.S.; Southwest U.S.; Northeast U.S.; Southeast U.S.; Ontario, Canada; and Maquiladora Corridor (Mexico/U.S. border).

The course will be produced in both English and Spanish. *P&SF*