



Advice and Counsel

Frank Altmayer, CEF
Scientific Control Laboratories Inc.
3158 Kolin Avenue
Chicago, IL 60623-4889

AESF Comments on Proposed Rule

Land Disposal Restrictions

For Newly Identified & Listed Hazardous Wastes and Hazardous Soil

On September 14, 1993, EPA published a proposed rule for creating "universal" treatment standards for "Newly Identified and Listed Hazardous Wastes and Hazardous Soil." The concept is a good one, because it would eliminate the variety of treatment standards that different wastes are required to meet under existing regulations.

The proposed rule would allow a company to use any treatment technology, as long as it met the universal standards. Present regulations specify treatments to be used; some wastes, for example must be incinerated.

There are several other provisions in the proposed rule, including a proposal to extend the existing hazardous waste exclusion to residues from a secondary process that are part of a closed-loop recycling operation.

But, most intriguing, and probably most important to metal finishers, is a proposal to replace total and amenable to chlorination treatment standards for F-006 wastes with one of three alternates:

1. Leave treatment standards at 590/30 and the analytical procedure for determining these concentrations as they presently exist.
2. Create a treatment standard based on TCLP leachate having a maximum of 16 ppm total cyanide and 3.5 ppm amenable to chlorination.
3. Create a treatment standard based on a DI water or alkaline water leach procedure and make the standard a maximum of 36 ppm amenable to chlorination.

Flaws With Procedures

Working in collaboration with the National Association of Metal Finishers (NAMF), AESF prepared the following

comments to the proposed universal treatment standards for cyanide:

(1) NAMF/AESF brought to EPAs attention the shortcomings of Methods 901.0/901.2 of SW 846. While EPA believes those shortcomings have been eliminated by stipulation of sample size and distillation times, the facts are that the procedures were never intended to be used for the analysis of solid waste. For convenience, EPA used "transfer" technology. It came up with a procedure for analysis that is without scientific merit. The analytical results for total cyanide in solid wastes are dependent upon sample size, reflux time, particle size, alkalinity of the solids, uniformity of the solid composition, types of complexes present, types and concentrations of interferences present, and a host of other less identifiable parameters. The SW846 methods, having been "imported" from the EPA wastewater procedures, only address the first two parameters of concern. Those procedures were specifically designed to detect a few ppm or less of total cyanide in what is normally a uniformly mixed aqueous matrix.

(2) The cyanide amenable to chlorination procedure designated by EPA for use on non-wastewaters provides inconsistent results at best. It is not unusual to obtain analytical results of highly negative cyanide amenable to chlorination results on an F-006 waste. Such negative results are probably because of the formation of a ferricyanide compound under the laboratory chlorination of the waste. The newly formed cyanide compound more easily breaks down upon acidification during the reflux after chlorination, thus yielding high-cyanide con-

centrations that must be subtracted from the original low analytical results.

The EPA has been informed of the problems with this analytical method on several occasions.

(3) EPA acknowledges that it has, on occasion, elected to regulate wastes based on TCLP concentration of cyanide, because of "analytical difficulties" (Page 48105, first column, one-third way down).

Alternative Recommended

We recommended using a "leachable" cyanide alternate to the Third-Third Land Disposal Restrictions of 590/30 when they were originally proposed. We would support a TCLP-based total cyanide limit as a universal standard and would prefer that EPA set the total cyanide at a value that would preclude the cyanide amenable to incinerated K-088 wastes, as such incineration should have destroyed any chlorinatable cyanide. We suggest that EPA set a total cyanide limit for TCLP leachate and discard the unreliable cyanide amenable to chlorination criterion. If EPA were to create a universal cyanide standard for non-wastewaters based on leachable levels of total and amenable cyanide, at least the analytical procedures would then match with the matrices and the concentrations ranges for which they were intended.

(4) EPA repeatedly quotes Senator Chaffee in proposed regulations, when explaining that "destruction of total cyanides should be required as a precondition to land disposal."

Senator Chaffee's statement is very clear and concise. It says "destruction of total cyanide," not "total destruction of total cyanide."

EPA acknowledges that total destruction is not in the cards by its past actions. The issue is, therefore, the amount of destruction that should be exercised to achieve the goal of Congress and safeguard the environment. EPA has been consistent in acknowledging that iron-cyanide complexes pose a far less serious hazard and has granted several variances to companies that demonstrated that they were utilizing BDAT technology in an efficient manner and were unable to generate waste meeting the treatment standard(s). EPA now proposes to set universal standards for cyanide based on leachable cyanide, or by specifying the technology to be used for cyanide destruction. Either of these would be preferred by our industry. It is not reasonable, however, to propose that existing variances be withdrawn, without first providing these companies an opportunity to assess their status under the new restrictions. At a minimum, we strongly suggest that EPA should gather data on a more than just K-088 waste, which has little/no kinship with F-006. Companies issued variances should be allowed enough time

to determine their status with a new universal standard, and then should be given a minimum of five years to meet or exceed the new universal standard.

(5) The proposed alternate alkaline leaching procedure might have merit, if it simulated any resemblance of what might happen if the waste was land disposed. Because landfill leachate is invariably neutral or acidic, we wonder what relevance to real life the use of alkaline leaching solution would have. If this connection is not relevant, we would support the concept of using an alkaline leach procedure to determine compliance with LDR total or amenable cyanide limits (total preferred over amenable) for the same concerns mentioned earlier about the analytical problems that would be avoided using such a procedure.

Regarding the Proposed Universal Standards For TCLP Metals

The metal finishing standards, for the Clean Water Act, were promulgated

through the study of exemplary plants, using mostly flow-through wastewater treatment systems that treated very dilute wastewaters. We would expect that RCRA-regulated wastewaters and non-wastewaters would be treated by batch systems instead, and that the wastes would be more concentrated than typical wastewaters treated for compliance with the Clean Water Act. Because chemical precipitation becomes more efficient when batch-treated, but less efficient when the waste is more concentrated, it is not possible to comment on the suitability of the proposed universal standard beyond that the proposed standards appear to be achievable. We would caution the EPA to provide assurances that these standards are achievable across a wide range of waste matrices, including F-006 wastes and wastewaters.

The proposed rule will probably be finalized early in 1994. The comment period ended on November 15, but EPA has indicated that important comments made after the deadline are always welcome. •