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United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Washington, D.C. 20460

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Melanie K. Pierson
Assistant U.S. Attorney
U.S. Department of Justice
Southern District of California
United States Courthouse
940 Front Street, Room 5-N-19
San Diego, California 92189

Dear Ms. Pierson:

This responds to your February 26, 1991 letter to Ms. Becky Cuthbertson regarding the regulatory status of solder dross generated by the periodic skimming of molten solder baths used in the production of printed circuit boards to remove contaminants acquired through use of the molten solder baths. Your specific question concerns whether this solder dross meets the description of a "by-product" or a "spent material" in the context of the hazardous waste regulations.

Although it is not specifically defined, the term "dross" is used as an example of a by-product in the January 4, 1985 Federal Register preamble to the current definition of solid waste (see 50 FR 625). Further, there is an example in EPA's "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes" (March, 1986) in which solder drosses generated in soldering integrated circuits to printed circuit boards are determined to not be solid wastes because they are identified as "characteristic by-products that are reclaimed."

Typically, a "dross" is generated prior to using a metal or alloy by melting the metal or alloy and skimming off the contaminants and oxides that have developed since the metal or alloy was refined. In the soldering of integrated circuits to printed circuit boards (as in the example given in the guidance manual), the dross is generated as a by-product (of the solder) when the solder is melted during its use. However, although the

generator may claim that a secondary material is a "dross" (and the material may, in fact, appear to be a "dross"), that does not automatically mean that the material is a by-product rather than a spent material.

The determining consideration in classifying a secondary materials is how the material is generated, not the term used to describe it (e.g., "dross"). As a product that has been used in the process, the solder skimmings, when removed (i.e., skimmed off) from the process due to contamination of the molten solder bath during its use in the process, would more clearly meet the definition of a spent material than a by-product. Rather than being a by-product of the solder itself, the skimmings are spent materials from the use of the solder.

As you know, this regulatory interpretation reflects the Federal program. You should also contact the appropriate State regulatory agency to determine the regulatory status of the solder dross under their program.

I hope this has helped to answer your questions. Should you have any further questions, you can contact Mr. Mitch Kidwell, of my staff, at (202) 475-8551, or Ms. Jeannie Paige, of the EPA Region IX office, at (415) 744-2073.

Sincerely,

David Bussard
Director
Characterization and Assessment Division

cc: Jeannie Paige