



## Department of Energy

Washington, DC 20585

September 16, 2002

Rich Vaille, Associate Director  
Waste Management Division (WST-1)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Dear Mr. Vaille:

*Re: 67 FR 49649; "Hazardous Waste Management System; Proposed Exclusion for Identifying and Listing Hazardous Waste and a Determination of Equivalent Treatment;" Proposed Rule and Request for Comment*

On July 31, 2002, the U.S. Environmental Protection Agency Region IX (EPA) published a proposed rule and request for comment concerning the EPA's preliminary decision to grant two petitions submitted by the Lawrence Berkeley National Laboratory (LBNL), a multi-program laboratory operated by the University of California under a contract with the Department of Energy. The two petitions address approximately 200 gallons of residues from treatment (using the catalytic chemical oxidation (CCO) technology) of low-level mixed waste generated by the National Tritium Labeling Facility (NTLF), a research facility located within LBNL. Granting the first petition as proposed would exclude (or "delist") the CCO technology treatment residues from the EPA's lists of hazardous wastes. Granting the second petition as proposed would establish the CCO technology as an equivalent method of treatment to meet the applicable land disposal restrictions (LDR) treatment standards for the original NTLF-generated low-level mixed waste, which included the EPA hazardous waste code D001 (high-TOC [total organic carbon] subcategory), along with the listed hazardous waste codes addressed by the delisting petition. The purpose of this letter is to support EPA's preliminary decision to grant both petitions.

As EPA notes in the preamble, the original mixed waste that triggered the petitions and subsequent proposed rule was generated as a result of the NTLF's mission as a noncommercial research organization designated by DOE and the National Institutes of Health (NIH) to conduct tritium labeling research and development (p. 49652, col. 3). Tritium labeling is a process whereby tritium ( $^3\text{H}$ ) is mixed with organic solvents. The process produces a radiolabeled compound suitable for use in studying the bioabsorption and metabolism of drugs, and results in a waste mixture consisting of tritium (regulated under authority of the Atomic Energy Act (AEA)) and spent organic solvents (regulated under authority of the Resource Conservation and Recovery Act (RCRA)). Because it comprises both radioactive material regulated under the AEA and solid waste regulated under the RCRA, this waste mixture is classified as mixed waste. Under existing RCRA regulations, the hazardous component of this mixed waste requires treatment using a high temperature organic destruction technology such as an incinerator, boiler, or industrial furnace. However, due to the presence of the waste's radioactive component, options for such treatment are extremely limited and prohibitively expensive. For that reason, LBNL implemented its treatability study using the CCO technology, which

generated bubbler water while converting the original mixed waste into carbon dioxide gas and tritiated water. During CCO treatment, the organics present in the original mixed waste were virtually destroyed. Furthermore, neither the tritiated water nor the bubbler water exhibits any of the characteristics of hazardous waste. However, unless EPA finalizes its proposed rule, both waters would continue to require management as hazardous waste under RCRA based on the “derived-from” rule [40 CFR 261.3(c)(2)(i)]. Considering the small volumes of waste involved, the fact that no further waste of this type will be generated at the NTLF, and the protective controls that will continue to apply under DOE low-level radioactive waste management requirements, DOE believes that granting these petitions provides an approach that is protective of human health and the environment, and appropriate within the regulatory flexibility allowed under RCRA.

DOE notes that the CCO technology has been shown to achieve organic destruction efficiencies superior to those required for large scale high temperature organic destruction technology, such as an incinerator, boiler, or industrial furnace. Based on this, DOE agrees with EPA’s conclusion that the CCO technology should be considered equivalent to combustion for the treatment of organic wastes. DOE also agrees that the risks from RCRA hazardous constituents in the CCO residues are de minimis and the residues do not meet any of the criteria for which the original NTLF wastes were listed. Accordingly, DOE supports EPA in its preliminary decision to grant the petition for a determination of equivalent treatment and the delisting petition. If EPA finalizes this proposal, LBNL will be allowed to manage the CCO residues as low-level radioactive wastes.

DOE encourages EPA to finalize this proposed rule and to consider whether the same approach may be applicable to similarly unresolved mixed waste issues at other facilities throughout the U.S.

Sincerely,

A handwritten signature in black ink that reads "Andy Lawrence". The signature is written in a cursive, flowing style.

Andy Lawrence  
Director  
Office of Environmental Policy and Guidance

cc: C. Nelson, EPA Region IX