Department of Energy
Washington, DC 20585
February 27, 2003

RCRA Docket Information Center
Office of Solid Waste (5305G)
U.S. Environmental Protection Agency (5305G)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Docket ID No. RCRA-2002-0025

Dear Sir or Madam:

Re: 67 *FR* 66251, *Waste Management Systems; Testing and Monitoring; Proposed Rule: Methods Innovation Rule*

On October 30, 2002, the U.S. Environmental Protection Agency (EPA) published a notice of proposed rulemaking, which would modify testing requirements under the Resource Conservation and Recovery Act (RCRA) to allow greater flexibility in performing sampling and analysis of solid wastes. Specifically, EPA proposes to implement a performance-based measurement system for RCRA analyses, and removing certain testing requirements for sources subject to National Emission Standards for Hazardous Air Pollutants. Known as the Methods Innovation Rule (MIR), the intent of the proposed rule is to reduce regulatory burden associated with sampling and analysis methods without compromising the protectiveness of the RCRA waste management program. The rule also includes notice of a 353 page draft guidance document, *RCRA Waste Sampling Technical Guidance*, with a request for comment.

The U.S. Department of Energy (DOE) welcomes and supports the proposals advanced in the referenced proposed rulemaking. Accordingly, DOE's enclosed comments encourage EPA to finalize the proposed rule that would change certain testing requirements and allow greater flexibility in performing sampling and analysis of solid wastes.

The enclosed comments are divided into two sections: general and specific. The general comments address broad issues. The specific comments relate directly to particular sections of the proposed rulemaking. For clarity, each specific comment is preceded by a reference to the section of the proposed rulemaking to which it applies, and a brief description of the text to which DOE's comment is directed (in boldface type). If you have any questions or need further clarification of our comments, please contact Al Sikri of my staff (at 202-586-1879; atam.sikri@eh.doe.gov) or Steven Woodbury of my staff (at 202-586-4371; steven.woodbury@eh.doe.gov).

Sincerely,

Andy Lawrence

Andy Lawrence
Director
Office of Environmental Policy and Guidance

Enclosure

cc: K. Kirkland, Office of Solid Waste (5307W)

U.S. DEPARTMENT OF ENERGY

COMMENTS REGARDING
HAZARDOUS WASTE MANAGEMENT SYSTEM;
TESTING AND MONITORING ACTIVITIES;
METHODS INNOVATION RULE

Notice of Proposed Rulemaking

(67 *FR* 66251-66301; October 30, 2002)

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GENERAL COMMENTS

1. DOE supports EPA's general philosophy allowing more flexibility in method selection and use by: (1) removing certain regulatory requirements to use "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," also known as "SW-846," and (2) clarifying what the Agency considers to be "appropriate methods."

2. DOE supports the use of SW-846 methods as one example of "appropriate methods." The use of other methods that are deemed appropriate allows cost effective flexibility in those instances where the methods in SW-846 are not the only methods appropriate to compliance with the RCRA regulations.

3. DOE agrees with EPA's approach to appropriate method selection. As EPA states in the proposed rule, appropriate methods generate effective data (p. 66256, col. 3). If the Data Quality Objective (DQO) approach is followed in the initial stages of a project, appropriate methods will be selected to provide data that meets specific goals for precision, accuracy, and reliability. The DQO approach, however, can be an expensive undertaking and not usually employed by small projects. For smaller projects, method selection is more likely determined by the site laboratory. The site laboratory will likely use methods for which a Standard Operating Procedure (SOP) is in place. SOPs are based on EPA, American Society of Testing and Materials (ASTM), or SW-846 methods or techniques that have documented reliability and are generally accepted by the scientific community. Also imbedded in SOPs are required quality control samples to demonstrate the reliability of the method. Due to the costs involved with method development and rewriting procedures, the larger projects with specific data needs will be the impetus to change current laboratory protocol. Because the use of other appropriate methods is offered by the EPA as an option and not a requirement, projects with an established sampling plan utilizing established laboratory SOPs do not need to incur the costs of changing their practices or documentation.

4. DOE supports EPA's proposal to remove the required use of SW-846 methods for RCRA- related testing and monitoring (except where the SW-846 method is the only one capable of measuring a specific parameter). In the testing and analysis of mixed wastes generated from nuclear weapons production, radioactivity presents a host of difficulties when attempting to comply with SW-846 methods. Radioactive tank waste does not fit neatly into an environmental soil or aqueous testing method. Chemists, now given the chance to select the best method to accommodate small sample size or difficult matrices, should now produce higher quality data by focusing on method performance instead of

conformance to a required method not intended for the sample matrix (e.g., radioactive sludge).

5. EPA references various methods throughout the proposed rule and states that they are found in SW-846 (Test Methods for Evaluating Solid Waste). However, EPA does not mention where in SW-846 those methods are found. It would be useful for EPA to provide a more specific reference to where the method is contained in SW-846 in order to make it easier for the method to be found (e.g., "Method 8260 in chapter 4 of EPA Publication SW-846").

6. The preamble refers to some *Code of Federal Regulations* (CFR) sections which predate the online access through the *Federal Register* (e.g., online database 45 *FR* 33084, August 27, 1991). Therefore, citations should either include the full reference or provide an existing online reference source so the sections may be easily located.

SPECIFIC COMMENTS

In a number of places, the reader is referred to SW-846 for more information on a testing method. It would be helpful to refer the reader to the proper section within SW-846. Examples of this occurrence of "non-specific" referencing appear in the following locations:

1. **p. 66256, col. 2 -** "… include Method 9040….and Method 9095."
2. **p. 66257, col. 2 -** "For example, use of the TCLP, SW-846 Method 1311..."
3. **p. 66259, col. 2** - "… the use of Methods 9010 (" Total and Amenable Cyanide: Distillation") and 9012 (" Total and Amenable Cyanide Automated Colorimetric, with Off-line Distillation")."
4. **p. 66260, col. 1 -** "… includes a requirement to use Method 8290..."
5. **p. 66260, col. 2 -** "SW-846 Method 9060, " Total Organic Carbon," and SW-846 Method 8260 , "Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry."
6. **p. 66263, col. 2 -** "For example, Method 9010, ... "
7. **p. 66266, col. 3 -** "In addition, the most current versions of SW-846 Method 1010 ..."
8. **p. 66272, col. 1 -** " ... in the SW-846 methods (Methods 1010 and 1020 ... "
9. **p. 66273, col. 3 -** " ... include Method 8260; ... "

II. Summary of Today's Proposed Rule and Covered Entities.

1. p. 66255. col. 1 - The proposed rule outlines the goals of allowing more flexibility in RCRA related sampling and analysis in method section by removing the current requirement to use SW-846. Also, the Agency clarifies what other appropriate methods are.

DOE supports the general philosophy of using alternative analytical methods in lieu of specified SW-846 methods for non-method defined parameters, particularly as the use of other appropriate

methods will be an option, not a requirement. DOE also supports alternative methods for use in developing delisting positions**.**

III. Background and Purpose of Proposed Action to Reform RCRA Related-Testing and Monitoring.

III. A. How to Determine If A Method Is Appropriate.

1. <u>p. 66256, col. 3</u> - Discusses the use of "... appropriate methods such as those found in SW-846 or other reliable sources."

DOE suggests that EPA more clearly define "reliable sources." The existing discussion suggests that appropriate methods "might be a method in a different EPA manual or regulation or published by another government agency, voluntary standards setting organization, or other well-known sources." DOE recommends guidance as to what is considered a "well-known source." Further, a definition of a "reliable source" would aid in the process of selecting "appropriate methods."

III. B. Why We Selected the Proposed Approach Over Other Approaches.

1. <u>p. 66257, col.3</u> - EPA requests the public opinion of the alternative approaches that are considered.

(1) EPA could retain the "appropriate method" approach providing regulatory language is further clarified that it is neither mandatory nor preferred by EPA to use these methods. Alternative methods could be used if they meet certain performance standards (as noted below).

(2) Alternative methods could be used providing performance criteria are met and documents are maintained at the facility for review by appropriate regulatory agency. It would be helpful to provide the regulated community with what the Agency considers as minimum performance criteria (e.g., minimum confidence interval, calibration requirements) for use of an alternative method. This would serve to alleviate concerns regarding potential differences of opinion between regulatory agencies and the regulated community as to what constitutes an "acceptable alternative" method, and provide a defensible basis for selection of alternative methods. EPA could also further clarify that a formal approval for an equivalent/alternative method is not necessary providing appropriate performance criteria compliance documentation is placed in the facility's record.

By waiving the required approval for use of alternative methods at the federal level, the regulated community would be more secure in dealing with State agencies that adopt federal regulations directly without modifications when choosing alternative methods of analysis. That is, it would be clear to both parties that formal approval is no longer needed. Although this would not aid those facilities located in States that promulgate more stringent standards, facilities located in States that adopt regulations as promulgated would welcome the clarification.

IV. Proposed Regulatory Revisions Involving Removal of SW-846 Requirements.

IV.A. Removal of Requirements To Use Only SW-846 in §260.22(d)(1)(i) and Appendix IX to Part 261.

1. p. 66259, col. 1 - SW-846 Methods Are Not Required to "delist" a Waste Listed With The Code "T".

DOE supports the waiver of mandatory use of SW-846 methods for listed cyanide and sulfide waste with code "T" and suggests that hydrogen fluoride should also be considered for such a waiver. Although unused hydrogen fluoride (U134) is not generated in large quantities by the industrial community, there are certain DOE facilities that do manage large volumes of non-liquid waste streams that carry the U134 hazardous waste number based on the derived-from rule.

Hydrogen fluoride is listed for toxicity in the unused form. However, many waste streams such as contaminated soil and polyphosphate ester can carry the U134 hazardous waste number. These waste streams do not have the same properties as the unused hydrogen fluoride and are viewed as non-toxic. In addition, since the EPA has removed fluoride as an underlying hazardous constituent, it would appear that the Agency is in agreement that fluoride associated with certain waste forms does not pose a threat to human health or the environment. The Agency should consider further clarifying that it is not a mandatory requirement to use SW-846 methods for fluoride analysis when seeking a delisting for U134. Also, the Agency should consider providing specific criteria that must be met to obtain a delisting approval for reactive waste and for U134. As the agency points out "an excluded waste may still be a hazardous waste by virtue of subpart C of part 261, which contains the RCRA regulations addressing characteristic hazardous waste" (p. 66265, col. 3). Removing the concern surrounding the U134 toxic listing (i.e., code "T") for non-liquid waste streams (e.g., polyphosphate ester, contaminated soil) by regulation rather than through a delisting approach does not necessarily remove the waste from subtitle C regulation. It only clarifies what would be required to meet a delisting approval in relation to removing U134 hazardous waste number from a waste stream. Generators would still be required to provide adequate information to show the waste stream in question does not exhibit a characteristic nor possess a threat to human health and the environment from other hazardous waste constituents (i.e., other than fluoride).

IV. K. Removal of SW-846 Methods From Incorporation by Reference in 260.11(a)(11).

1. p. 66263, Table 3 - SW-846 Methods To Remain in 260.11(A)(11) "Method Title" Column.

DOE suggests that EPA add the chapter numbers where the method may be found in SW-846 to the "Method title" column in Table 3.

2. p. 66263. Table 3. col. 1 - Removal of SW-846 Methods From Incorporation by Reference in Section 260.11(a)(11).

The Agency's basis for retention of test method 9045 Soil and waste pH is uncertain. Currently,

pH measurement is applicable only to liquids and not to solids under 40 CFR Subpart C. There does not seem to be any justification for the retention of this test method for purposes of RCRA. The federal program does not recognize soil pH methods as a means of determining a characteristic of hazardous waste. The characteristic of corrosivity is determined only for liquids through the use of SW-846 Method 1110 or National Association of Corrosion Engineers (NACE) Standard TM-01-69 (see p. 66266, col.1). DOE suggests that EPA consider removing test method 9045 soil and waste pH from the table of SW-846 methods remaining in §260.11(a)(11).

VI. Proposed Action To Withdraw Reactivity Interim Guidance From SW-846 Chapter Seven and Remove Required SW-846 Reactivity Analyses and Threshold Levels From Conditional Delistings.

1. p. 66264. col. 1 - Removal of Reactivity Interim Guidance

DOE understands EPA's rationale for removing the Reactivity Interim Guidance From SW-846 Chapter Seven; however, DOE believes that additional guidance is needed to replace it. EPA states that it believes that generators of sulfide- and cyanide-bearing wastes can recognize the acute toxicity of the waste without relying on test methods and threshold levels. EPA further asserts that generators have relied on their knowledge of the waste to classify them as D003. These assertions are true for cases where the process waste is known to contain high levels of cyanide and/or sulfide and must be managed appropriately to prevent harm to human health and environment. However, DOE manages sites where tanks contain radioactive mixed-wastes not fully characterized and where process knowledge is incomplete. In many cases, D003 was applied to the waste as a protective filing in the RCRA permits because not enough information was available at the time to demonstrate whether the waste had levels of cyanide and/or sulfide such that toxic vapors could be generated in a quantity sufficient to present a danger to human health or environment. Efforts to characterize tank waste have and will continue to include cyanide and/or sulfide analyses by an appropriate method. Without a threshold value by which to definitively designate tank waste as characteristic for reactivity it will be difficult to properly classify the waste. With this in mind, DOE urges EPA to provide some guidance to take the place of the Reactivity Interim Guidance.

2. p. 66264. col. 2 - EPA proposes to remove required uses of the SW-846 Chapter Seven methods for reactive cyanide and sulfide from a number of conditional delistings.

DOE agrees with the removal of required uses of SW-846 methods for conditional delistings, thus allowing the generator to select appropriate testing methods.

3. p. 66265. col 2 - Further, EPA proposes to remove the reactive cyanide and sulfide interim threshold levels also used as delisting action levels for some of the conditional waste exclusions.

EPA asserts that removing the delisting action levels for cyanide and sulfide should not be an issue because generators of delisted wastes must still determine whether their wastes remain

non-hazardous based on the hazardous waste characteristics (subpart C of part 261). This appears to create a situation which results in uncertainty. The generator must now demonstrate that the waste is non-hazardous. The generator refers to SW-846 Chapter Seven which provides test methods and threshold levels for the hazardous characteristics. The generator finds suggested test methods and action levels for ignitability, corrosivity, and toxicity (Toxicity Characteristic Leaching Procedure), but not for the characteristic of reactivity. The generator selects an appropriate method to determine the concentrations of cyanide and sulfide in the delisted waste, but without a threshold or action level, a reactivity determination cannot be made with certainty. For this reason, and similar to the request above (in response to Section VI, item 1), DOE urges EPA to provide some degree of guidance to address these wastes if the threshold levels are removed from use in conditional delistings.

VII. Proposed Clarifications to Corrosivity and Ignitability Hazardous Waste Characteristics.

1. p. 66266, col. 1 - EPA proposes to clarify that in section 261.22 the SW-846 method 1110 "Corrosivity Toward Steel" is the standardized version of the NACE Standard TM-01-69.

DOE supports EPA's efforts to clarify the corrosivity characteristic testing requirements.

2. p. 66266, col. 2 - EPA also proposes to update references to ASTM standards and clarify that SW-846 Methods 1010 and 1020 reference the actual ASTM standards for the testing of the ignitability characteristic in 262.21(a)(1). EPA proposes to update ASTM Standard D3278-78 with D3278-96 with no substantial differences noted between the methods.

DOE supports this update.

3. p. 66266, col. 2 - In addition, EPA proposes to update ASTM standard D93-80 with the newer versions D93-99c and/or D93-00.

In general, DOE supports EPA's efforts to keep the ignitability characteristic testing requirements and referenced standards up to date. To this end, EPA should indicate that a newer version is available as D93-02. This version appears when a search of D93 is conducted on individual standards at the ASTM website, which is at www.astm.org. A summary of this version is available for viewing, but the standard itself must be obtained in order to fully study its contents and the differences from the older versions of D93.

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SPECIFIC COMMENTS

3.4 Using sample analysis results to classify waste or determine its status under RCRA.

1. **p.24, par. 5 - In the preamble, EPA explains how sample analysis results can be used to classify waste or determine its status under RCRA. Detailed statistical guidance, including equations, is referenced to offer further explanation**..

Detailed statistical guidance, including equations, is said to be located in Section 8.2 and Appendix F. However, no statistical equations are located in Section 8.2; equations are given in Appendix F. DOE suggest that this be clarified.

Appendix F

Box F.2 Example Calculation of the UCL for a Normal Mean.

1. **p. 249, Box F.2 - In this example EPA explains how the UCL for a Normal Mean is calculated.**

In step two, it would be useful to list the equation in full before inserting the numerical values. This would help to make the example easier to follow.

When the result of 28 is achieved in step two, it would be advisable to insert "ppm" here.

Box F.3 Example Calculation of the UCL for a Lognormal Mean.

1. **p. 251, Box F.3 - In this example EPA explains how the UCL for a Lognormal Mean is calculated.**

In step one a cross reference back to the page number where the Shapiro-Wilk test is located would be useful.

Appendix H

1. **p. 274 - Sampling Design Software. In this section EPA lists and explains the different types of sample design software that are available.**

a) Section 1

http://dgo.pnl.gov/software/elipgrid.htm link is unavailable.

b) Section 2

http://www.acs-envchem.dug.edu/dgopro.htm link is unavailable.

c) Section 3

http://dgo.pnl.gov/VSP/Index.htm link is unavailable.