



# **Office of Inspector General**

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## **Report of Audit**

### **BIENNIAL HAZARDOUS WASTE DATA: OPPORTUNITY FOR IMPROVEMENT**



**Audit Report No. E1DSF6-11-0001-7100114**

**February 18, 1997**



**Inspector General Division  
Conducting the Audit:**

**Headquarters Audit Division  
Washington, DC**

**Regions Covered:**

**Regions 4, 5, 7**

**Program Office Involved:**

**Office of Solid Waste and Emergency  
Response**

EPAX  
9705  
0001



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 18 1997

OFFICE OF  
THE INSPECTOR GENERAL

**MEMORANDUM**

SUBJECT: Biennial Hazardous Waste Data: Opportunity  
for Improvement  
Audit Report No. E1DSF6-11-0001-7100114

FROM: Michael Simmons *Michael Simmons*  
Deputy Assistant Inspector General  
for Internal Audits

TO: Timothy Fields, Jr.  
Acting Assistant Administrator  
for Solid Waste and Emergency Response

Attached is our final report entitled Biennial Hazardous Waste Data: Opportunity for Improvement. Our overall audit objectives were to determine if the National Biennial RCRA Hazardous Waste Report (Biennial Report) process (1) results in the users obtaining the information needed to make sound regulatory decisions and (2) provides complete, accurate, and timely information to help manage EPA's hazardous waste program.

This report identifies corrective actions the Office of Inspector General (OIG) recommends to improve the Biennial Report process and the Biennial Reporting System (BRS). As such, it represents the opinion of the OIG. Final determinations on matters in the report will be made by EPA managers in accordance with established EPA audit resolution procedures. Accordingly, the findings described in this report do not necessarily represent the final EPA position.

We have designated you as the action official for this report. In accordance with EPA Order 2750, the action official is required to provide this office with a written response to the audit report within 90 days of the final report date. For any corrective actions planned but not completed by the response date, reference to specific milestone dates will assist this office in closing the report in our audit tracking system.

The response by the Office of Solid Waste and Emergency Response (OSWER) to our draft report is included as Appendix I. Based on OSWER's response to the draft report and prior discussions with OSWER officials, we made appropriate changes to this final report.

We appreciate the cooperation extended to our auditors by your Office of Solid Waste managers and staff during this audit. If you or your staff have any questions about this report, please contact Edward Gekosky, Divisional Inspector General for Audit, Headquarters Audit Division, at (703)308-8222.

Attachment

## EXECUTIVE SUMMARY

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### PURPOSE

The purpose of the audit was to evaluate the Environmental Protection Agency's (EPA) process for collecting and reporting on biennial hazardous waste information. Our specific objectives were to determine if the overall process: (1) results in the users obtaining the information needed to make sound regulatory decisions, and (2) provides complete, accurate, and timely information to help manage EPA's hazardous waste program.

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### BACKGROUND

Subtitle C of the 1976 Resource Conservation and Recovery Act (RCRA) establishes a program to manage hazardous wastes from "cradle-to-grave" to ensure that they are handled in a manner that protects human health and the environment. RCRA requires EPA to collect information on the generation and disposal of hazardous waste every two years. To meet these requirements, EPA established a process that produces the National Biennial RCRA Hazardous Waste Report (Biennial Report).

EPA develops the package of biennial reporting forms and instructions and sends them to the states every two years. After the states receive the forms, they send them to and collect them from the generators, and treatment, storage, and disposal facilities (TSDs), check data quality, and send the information back to EPA regional offices. Most, but not all states also enter the data into EPA's Biennial Reporting System (BRS). The regions accumulate the states' data, further check data quality and then send the results to EPA's Office of Solid Waste (OSW) in the Office of Solid Waste and Emergency Response (OSWER). OSW accumulates the regional data, and does final quality checks, consulting with the regions and states to identify potential errors. According to OSW, states must verify and correct the errors.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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OSW then develops and publishes the Biennial Report every two years.

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**RESULTS IN BRIEF**

We found that EPA's overall Biennial Report process can be improved. Specifically, we found that the:

- Biennial Report process and the BRS are complex for many users.
- Biennial Report changes made by the Agency for 1997 will eliminate the collection of some future hazardous waste data.

EPA has taken some steps to ease the reporting burden for entities required to submit data for the 1997 Biennial Report. The Office of Solid Waste created a Biennial Report Project Team to study and recommend ways to improve the program. In addition, OSW is working to improve RCRA information overall through the Waste Information Needs (WIN) initiative. However, our interviews of state and EPA officials, reports by the National Governors Association (NGA) and other organizations and additional analyses and documents identify key issues that need to be considered and improved.

We commend the Agency on their efforts, and believe the efforts will help Biennial Reports to present a more accurate picture of hazardous waste in the U.S.

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**PRINCIPAL FINDINGS**

Our findings are summarized below and discussed in detail in CHAPTERS 2 and 3 of this report.

**Biennial Report  
Process and the  
BRS Need  
Improvement**

The overall Biennial Report process reflects the complexity of RCRA and is difficult for generators and TSDs that have to report hazardous waste information. During the audit, we found that the regions and states often view the Biennial Report process and BRS as being a complex and difficult information reporting process.



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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Biennial reporting forms and instructions need to be streamlined. EPA's instruction and forms package for the 1995 Biennial Report is lengthy and complex to fill out according to state officials we interviewed who deal directly with the regulated community. States have devised their own, shorter versions of the package and have adopted other techniques to ease the reporting burden.

To help reduce errors and increase reporting accuracy, OSW should revise codes (system type, form and source) or data elements unique to the Biennial Report so they more closely parallel the data categories regularly used by facilities. Potential for data errors increases when facilities have to fill out biennial report forms using some codes that they are not used to dealing with in daily management of their hazardous wastes. This has been a longstanding concern among some state officials.

**Data Are Not  
Easily Obtained  
From BRS**

The BRS was designed by EPA to meet the statutory requirement of reporting every two years on the amount and types of hazardous waste generated in this country. OSW officials told us they provide the user community with the ability to request enhancements to make BRS data more "obtainable." We found many users have raised concerns about obtaining useable data from BRS. One of the main concerns is that the BRS programming language, FOCUS, is a difficult language to learn and to use. We were told that only a few people have the requisite expertise with FOCUS to program necessary reports from BRS.

**EPA Needs to  
Emphasize  
Electronic  
Enhancements  
and Reporting**

Implementers of the Biennial Report believe that expanded use of electronic technology and reporting is needed. Similar concerns were raised in a recent report by NGA, and by an EPA sponsored study covering implementation of BRS and the Resource Conservation and Recovery Information System (RCRIS). OSW should work to make enhancements better known to the states which

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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would improve their electronic reporting activities in connection with BRS.

**Planned Changes  
for 1997 Biennial  
Report May Not  
Meet Statutory  
Requirements**

A statutory requirement for EPA requires facilities to report efforts undertaken to reduce the volume and toxicity of hazardous wastes generated. EPA and state regulatory agencies have used Biennial Report data to measure the efforts of waste minimization. However, waste minimization reporting was removed from the 1997 Biennial Report process. To assure waste minimization is occurring, EPA must be able to accurately assess and measure the progress of waste minimization.

EPA has made other 1997 Biennial Report changes that affect the Agency's ability to characterize and manage the nation's hazardous waste program. EPA is no longer collecting capacity planning data in the Biennial Report process. In addition, the Agency has initiated changes to ensure that wastewater data does not skew Biennial Report information.

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**RECOMMENDATIONS**

All of our specific recommendations follow the findings in CHAPTERS 2 and 3. In summary, we are recommending that the Assistant Administrator for the Office of Solid Waste and Emergency Response initiate the following actions for the 1999 Biennial Report process, or as soon as possible to:

- Streamline and redesign the Biennial Report forms and instructions to make them clearer and easier for generators and TSDs to complete.
- Revise the Biennial Report codes (system type, form and source) to avoid the confusion experienced by generators and TSDs.
- Educate the states regarding the use of existing electronic enhancements to improve their data collection and reporting activities.



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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- Improve the availability and access for all users by making BRS available at users desktop computers.
- Assess the type of data required and specify how the RCRA Section 3002(a) reporting requirement will be met.
- Ensure states receive specific information for their waste planning efforts from any future Agency waste capacity reassessments.

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**AGENCY COMMENTS  
AND OIG EVALUATION**

In their February 11, 1997 response to our draft report, OSWER officials stated they agree with the recommendations contained in the report. They further state they have planned appropriate actions to implement changes in the biennial reporting process and the BRS according to the recommendations in our report. They said the recommendations that we developed were both meaningful and practical ones that will improve the biennial reporting process and the BRS (see Appendix I for the full response).

We believe the Agency's response to our draft report and their willingness to plan and initiate corrective actions based on the findings and recommendations will bring significant improvement and changes to the current situation. We further believe that the biennial reporting process and the BRS will be strengthened, and thus, the corrective actions will result in a better and more usable Biennial Report.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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**TABLE OF CONTENTS**

	<b>PAGE</b>
<b>EXECUTIVE SUMMARY . . . . .</b>	<b>i</b>
<b>CHAPTER 1 - INTRODUCTION . . . . .</b>	<b>1</b>
PURPOSE . . . . .	1
BACKGROUND . . . . .	1
SCOPE AND METHODOLOGY . . . . .	3
MANAGEMENT CONTROLS . . . . .	4
PRIOR AUDIT COVERAGE . . . . .	5
AGENCY EFFORTS TO IMPROVE THE BIENNIAL REPORTING PROCESS . . . . .	5
<b>CHAPTER 2 - THE BIENNIAL REPORT PROCESS             AND BRS ARE COMPLEX . . . . .</b>	<b>7</b>
BIENNIAL REPORTING INSTRUCTIONS NEED TO BE STREAMLINED . . . . .	7
CODES UNIQUE TO THE BIENNIAL REPORT NEED TO BE REASSESSED . . . . .	9
DATA ARE NOT EASILY OBTAINED FROM BRS. . . . .	.10
EXPANDED USE OF COMPUTER TECHNOLOGY NEEDS TO BE PURSUED. . . . .	.11
ACCESS TO BRS FILES NEEDS TO BE IMPROVED . . . . .	.13
RECOMMENDATIONS. . . . .	.14
AGENCY COMMENTS AND OIG EVALUATION . . . . .	.15

TABLE OF CONTENTS

	PAGE
CHAPTER 3 - IMPACT OF EPA's 1997 BIENNIAL REPORT CHANGES . . . . .	17
WHY WASTE MINIMIZATION REPORTING IS IMPORTANT . . . . .	17
1997 BIENNIAL REPORT ICR MAY NOT MEET WASTE MINIMIZATION STATUTORY REQUIREMENTS . . . . .	18
WASTE MINIMIZATION INSTRUCTIONS WERE DIFFICULT FOR FACILITIES TO UNDERSTAND . . . . .	20
AGENCY CONCLUDED THAT HAZARDOUS WASTE CAPACITY IS ADEQUATE . . . . .	21
WASTEWATER CAN SKEW HAZARDOUS WASTE DATA . . . . .	23
RECOMMENDATIONS . . . . .	24
AGENCY COMMENTS AND OIG EVALUATION . . . . .	25
APPENDIX I - AGENCY RESPONSE TO DRAFT REPORT . . . . .	27
APPENDIX II - REPORT DISTRIBUTION . . . . .	35



## CHAPTER 1

### INTRODUCTION

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#### PURPOSE

The purpose of the audit was to evaluate the Environmental Protection Agency's (EPA) process for collecting and reporting on hazardous waste information. Our specific objectives were to determine if the overall process: (1) results in the users obtaining the information needed to make sound regulatory decisions, and (2) provides complete, accurate, and timely information to help manage EPA's hazardous waste program.

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#### BACKGROUND

Federal regulations specify that solid waste is hazardous if it (1) exhibits any of the characteristics of a hazardous waste (ignitability, corrosivity, reactivity or toxicity); or (2) has been named as a hazardous waste and listed as such in the regulations. Certain wastes are deemed acute hazardous wastes because they are so dangerous in small amounts that EPA regulates them the same as larger amounts of other hazardous wastes.

#### Legislative Requirement

Federal law requires EPA to collect information about hazardous waste generation and disposition. Concern about hazardous waste led Congress to write data collection into the law in 1976 and to revise it in 1984. The 1976 Resource Conservation and Recovery Act (RCRA) established the nation's basic hazardous waste management system under Subtitle C of the Solid Waste Disposal Act (SWDA). Subtitle C establishes a program to manage hazardous wastes from "cradle-to-grave" to ensure that they are handled in a manner that protects human health and the environment. RCRA required EPA to collect information on the generation and disposal of hazardous waste quantities.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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RCRA was revised by the Hazardous and Solid Waste Amendments (HSWA) of 1984 (P.L. 98-616) which changed the hazardous waste reporting requirements. HSWA (1) changed the periodic reporting requirement to at least once every two years, (2) required companies that generate waste (generators) to report on the nature of the waste (in addition to the quantities), (3) added a new requirement to report on efforts undertaken during the one-year period to reduce the volume and toxicity of waste generated, and (4) added a new requirement to report changes in volume and toxicity actually achieved during that one-year period when compared to previous years. To meet these requirements, EPA established a process to develop a National Biennial RCRA Hazardous Waste Report (Biennial Report).

**Biennial Reporting  
Process**

EPA develops a package of biennial reporting forms and instructions and sends them to the states every two years. To be able to collect the biennial report information, EPA needs to have an Information Collection Request (ICR) approved by the Office of Management and Budget (OMB). After the states receive the forms, they send them to and collect them from the generators, and treatment, storage, and disposal facilities (TSDs), check data quality, and send the information back to EPA regional offices.

Most, but not all, states also enter the data into EPA's Biennial Reporting System (BRS). In some cases, regional offices enter the data for states. The regions accumulate the states' data, further check data quality and then send the results to EPA's Office of Solid Waste (OSW) in the Office of Solid Waste and Emergency Response (OSWER). OSW accumulates the regional data, and does final quality checks, consulting with the regions and states to identify potential errors. According to OSW, states must verify and correct the errors. OSW also develops and publishes the Biennial Report.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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EPA uses Biennial Report information for internal purposes including rule making, regulatory analysis, waste minimization, capacity planning and analysis to meet requirements of the Superfund Amendments and Reauthorization Act (SARA). In addition, states use the information to assess user fees, and target enforcement activities such as inspections.

The RCRA program has been largely delegated to the states with some oversight by EPA. EPA believes the states are in a better position to administer the program and respond to specific state and local needs. As a result, implementation varies at the state level. For example, states may collect data every year, or collect additional data as well. In fact, some states use their own data systems or forms to compile and track waste data within the state. As many as 10 states use their own data systems to enter and collect the information.

Large quantity generators (LQGs) are required to submit Biennial Report information. A LQG is defined as one that generates 2,200 pounds of RCRA hazardous waste in any single month, or 2.2 pounds of RCRA acute hazardous waste. Under the authority of the law, EPA extended the reporting requirements to TSDs for the wastes they receive. According to the 1993 Biennial Report, 24,362 LQGs produced 258 million tons of hazardous wastes and 2,584 TSDs managed 235 million tons.

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**SCOPE AND  
METHODOLOGY**

Our audit focus was on the 1995 Biennial Report effort and the 1993 Biennial Report which was issued in August 1995. The audit covered Biennial Report implementation in OSW, Regions 4, 5 and 7, and the states of Florida, Illinois, Iowa, Kentucky, Michigan, Ohio, and Tennessee. For each state, we spoke with officials who implemented the data collection and input, as well as key users of the data. We reviewed applicable documentation at each location, such as EPA and the state policy and procedure guidance,

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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and any state system related to the Biennial Report process.

We chose these EPA regional offices and states to learn about Biennial Report implementation from varied perspectives based on information we obtained from EPA and other groups. We interviewed staff at the National Governors' Association (NGA) and discussed their review of the Biennial Report process. We also talked to Association of State and Territorial Solid Waste Management Officials (ASTSWMO) on their Biennial Report concerns. We further coordinated with the General Accounting Office (GAO) on its past and current audit work in this area. We reviewed applicable laws, policies, procedures, management controls, relevant reports and other EPA and state documentation on the biennial reporting process.

We reviewed comments on the biennial reporting process submitted to EPA over the years, including feedback that EPA received before OMB approval of the ICR for the 1997 Biennial Report process. We performed our audit in accordance with Government Auditing Standards (1994 Revision) issued by the Comptroller General of the United States.

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**MANAGEMENT  
CONTROLS**

We reviewed annual reports prepared by EPA, OSWER and OSW for 1994 and 1995 to meet the requirements of the Federal Managers' Financial Integrity Act (FMFIA). Environmental data quality has been a cross-cutting Agency-level material weakness since 1992. The FMFIA reports indicated OSW worked with EPA's Office of Research and Development (ORD) to address the concern.

Our review included inquiries of internal controls and procedures related to the audit objectives. We obtained and reviewed relevant written management controls when available at EPA headquarters, as well as regional offices we visited. Because of the delegated nature of the RCRA program, OSW relies on the states to implement data



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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collection for the Biennial Report and ensure the data is valid and reliable.

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**PRIOR AUDIT  
COVERAGE**

The EPA Office of Inspector General (OIG) has issued several reports on the RCRA program, including a 1995 report on manifesting requirements. GAO issued a 1995 report on the Resource Conservation and Recovery Information System (RCRIS) which is a separate RCRA data system. During 1990-1992, GAO issued several reports on EPA's efforts to acquire information about hazardous waste, including three reports that focused on waste minimization efforts. The Biennial Report was used in collecting waste minimization data, and EPA made some changes in response to the GAO recommendations.

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**AGENCY EFFORTS  
TO IMPROVE THE  
BIENNIAL REPORTING  
PROCESS**

The Agency has taken steps to improve the Biennial Report process and BRS. For example, OSW has undertaken a long-range effort, the Waste Information Needs (WIN) initiative, that will include an assessment of future RCRA data and technology needs. The projected WIN goals include reducing the reporting burden for industry, states and the regions while ensuring accurate data for tracking national results and for regulatory and reporting requirements. Completion for the WIN initiative is projected to be in 1999, although this time frame may be moved further into the future.

In April 1996, OSW started a Biennial Report Project Team whose mission is to devise a better Biennial Report program. Its team charter continues through March 1998. It outlines basic steps for work on the 1997 Biennial Report process, and covers some ways to change the Biennial Report process for 1999. They plan to analyze issues identified in past biennial reports and related RCRA information reviews, and integrate initial WIN effort findings.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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We commend the Agency on their efforts, and believe the efforts will help Biennial Reports to present a more accurate picture of hazardous waste in the U.S. In our opinion, these efforts should also help the regions and states to more easily use BRS in the future.

## CHAPTER 2

### THE BIENNIAL REPORT PROCESS AND BRS ARE COMPLEX

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The overall Biennial Report process reflects the complexity of RCRA and is difficult for generators and TSDs that have to report hazardous waste information. Biennial Report forms and instructions are complex and lengthy, containing over 150 pages and require an average of about 22 hours to complete. In addition, the Biennial Report codes (system type, form and source) are confusing and have potential for data errors.

BRS data is not easy to obtain from the system. Further, the Agency needs to emphasize better use of electronic reporting enhancements, and add a simultaneous user capability to the BRS. Often managers and staff lack the computer skills necessary to successfully utilize BRS and obtain the information needed. As a result, the regions and states often view BRS as complex and difficult to use.

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#### BIENNIAL REPORTING INSTRUCTIONS NEED TO BE STREAMLINED

EPA's instructions and forms package for the 1995 Biennial Report includes over 150 pages. The package includes 47 pages of instructions, seven pages of definitions, 46 pages of codes for use in filling out the forms, 53 pages of examples of completed forms, and several pages that include blank forms and a checklist. During our audit, we found several states had replaced the lengthy EPA Biennial Report instructions and forms package with their own shorter versions.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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State officials often mentioned problems with data collection. According to state officials we interviewed, the forms are difficult to fill out because of the length and complicated nature of the package. Illinois State officials found some generators within their state experienced problems filling out the forms. To correct this problem, Illinois has now streamlined and improved its instructions that are sent to the generators. Illinois has redesigned their forms to make them easier to understand, fill out and enter into its data system.

Other states also streamlined their packages. For example, Tennessee has less than 25 pages, including the forms that make up its entire package. Kentucky also made changes to its forms and instructions package and reduced the size to 34 pages. These forms are slightly longer than the EPA versions but the instructions are considerably shorter. Kentucky streamlined its package by including some of the choices and instructions directly on the form.

OSW officials recognize the need to simplify the reporting requirement but also believe the regulated community has developed a good understanding of the forms and instructions because of a significant reduction in calls to their Biennial Report hotline over the last three biennial reporting cycles. State officials who deal directly with the regulated community's questions believe the EPA package should be streamlined.

While EPA will be eliminating a form and modifying the instruction package for 1997, we believe the Agency has an opportunity to further streamline and simplify the forms and instruction package. The state changes discussed above suggest that OSW may be able to streamline the EPA package for the 1999 Biennial Report without eliminating any necessary data elements, codes or instructions. Although we have not made specific suggestions for changes, we believe a side-by-side comparison with several state



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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packages would be helpful in identifying ways to simplify the existing EPA package.

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**CODES UNIQUE TO  
THE BIENNIAL  
REPORT NEED TO  
BE REASSESSED**

Unlike the codes used in manifests (a control and transport document that accompanies hazardous waste from the generator to a TSD), and in RCRIS, some Biennial Report codes (system type, form and source) differ from codes that generators use in the daily management of their hazardous wastes. Because some of these Biennial Report codes are only used every two years, confusion and potential for data errors may result. In fact, this has been a longstanding concern among some state officials.

In a 1993 letter to EPA, one state expressed a desire to see the BRS codes (system type, form and source) made equivalent to the corresponding codes in RCRIS. In addition, NGA in 1995 recommended that EPA revise and simplify the waste codes (system type, form and source) used in the Biennial Report and develop a consistent set of codes for all EPA hazardous waste reporting programs. In responding to EPA's March 15, 1996, request for comments on changing the Biennial Report, Kentucky noted that:

*There are numerous examples where the Biennial Report fails to be consistent with the hazardous waste record keeping requirements. The Biennial Report adopts an entire set of codes for system type, form and source that appear nowhere in the regulatory record keeping requirements...thus each generator must evaluate, scrutinize and select the most appropriate codes for reporting an entire years' worth of data based on speculation rather than records. Since the report is a certified document, it places the generator or facility in jeopardy of enforcement action for errors or omissions. It cannot be compared to on-site records by an*

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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*inspector for compliance  
evaluation.*

One state official recommended that Biennial Report information should be obtained from records that can be verified in the field such as a company manifest or operating records. Another state pointed out that the Biennial Report waste codes and process codes are different from the ones that the regulated community is required to use for their operating log. The state's concern was that only one set of codes should be used for the same item, no matter whether the code relates to a company operating log or to EPA Biennial Report data.

ORD's Quality Assurance Management Staff reviewed OSW's quality system in June 1994. ORD's recommendations did not specifically address the Biennial Report, BRS, or related data quality. However, based on their interviews and document reviews, the ORD staff commented that the complexity of reporting codes makes the BRS difficult to use.

When OMB recently approved EPA's ICR for the 1997 Biennial Report, OMB required that EPA, in the future 1999 Biennial Report cycle, take steps to reduce the burden on reporting facilities by changing the waste handling and characterization codes used in the Biennial Report and other RCRA information processes. While EPA's WIN Initiative may consider this issue in a broader sense, WIN may not be completed before the Agency has to incorporate OMB's data collection concerns for the 1999 Biennial Report. We believe OSW should address this issue of changing codes (system type, form and source) for the 1999 Biennial Report to make sure OMB concerns are satisfied in due time.

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**DATA ARE NOT  
EASILY OBTAINED  
FROM BRS**

The BRS was designed by EPA to meet the statutory requirement of reporting every two years on the amount and types of hazardous waste generated in this country. OSW officials provide the user community with the ability to request enhancements to make BRS

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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data more "obtainable." However, we found many users have raised concerns about obtaining useable data from BRS. One of the main concerns is that the BRS programming language, FOCUS, is a difficult language to learn and to use. Few people have the requisite expertise with FOCUS to program necessary reports from BRS.

The average user's ability to access data and generate selected information and reports from BRS is limited. In some of the states we reviewed, officials said EPA headquarters provided only limited support for obtaining reports from BRS. The September 12, 1996, draft EPA Hazardous Waste Program Information Strategy Plan acknowledges that BRS is difficult to access because it is on the EPA mainframe, and programmed in a software language (FOCUS) that is difficult to use.

Officials in several states also expressed concern that they did not have personnel with the necessary level of skill in FOCUS to generate reports from BRS necessary to help manage their RCRA state programs. Recognizing the difficulty users have with FOCUS, EPA developed the Reporting Database (RDB) to assist users in obtaining reports from BRS. Yet, EPA's own user manual for the RDB (December 1993) states that successful reporting with current BRS databases requires programming skills beyond most BRS user capabilities. One of the objectives for creating the RDB was to reduce the requisite knowledge of FOCUS that users need to generate reports from BRS. However, none of the states or regions we visited mentioned the RDB. Several individuals did mention the difficulty in obtaining information from BRS.

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**EXPANDED USE OF  
COMPUTER TECH-  
NOLOGY NEEDS TO  
BE PURSUED**

Our interviews with regional and state officials show that users of the Biennial Report believe that expanded use of electronic technology and better reporting is needed. Similar concerns were raised in a recent report by NGA, and by an EPA sponsored study covering RCRIS and BRS implementation.

## **Biennial Hazardous Waste Data: Opportunity for Improvement**

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OSW is familiar with state level innovations to improve effectiveness of data collection and management. It is also familiar with the extensive comments on the subject in the NGA report. Participants in the EPA sponsored study that assessed RCRIS and BRS also discussed the need for making Biennial Report information more accessible and easy to use. Officials we interviewed mentioned similar concerns.

The State of Florida found data entry and reporting to be very cumbersome. Florida officials had to resolve their concerns by developing BRSDISK which is a personal computer program containing a diskette version for the Biennial Report forms. They use BRSDISK (also referred to as the "Smart Form") for entering data and compiling the data into a commercially available database program which allows them to develop their own reports. They told us that the program has saved data entry time and increased overall data accuracy. BRSDISK uses the flat file structures published in EPA's Electronic Reporting Guide.

Florida's computer expertise allowed them to overcome problems normally associated with BRS. A key Florida official explained that the state's reporting facilities needed more "friendly" data entry and built-in quality control checks than what was provided by BRS. The BRSDISK program was designed to check internal consistency and accuracy within each submitted report. When data entry is complete, all forms are checked for completeness, cross checked for internal integrity and checked against lists of valid entries. In effect, Florida's program minimized problems their reporting facilities had experienced with the large Biennial Report forms package and actually reduced the time it took to enter the data. They have shared the BRSDISK program with other states which has helped resolve similar computer related problems with BRS.



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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Although the WIN Initiative may lead to changes in the BRS, they will not occur until several years in the future. OSW officials recently informed us they are planning to enter into a partnership with the NGA in 1997 to examine the use of electronic reporting for BRS. We believe OSW should emphasize to the states the use of electronic enhancements, starting with innovations that are already being used by various states and regions. Some of these enhancements could be used to test WIN initiative ideas. We believe OSW should work to make enhancements known to other states, to improve electronic reporting activities nationwide.

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**ACCESS TO BRS  
FILES NEEDS TO  
BE IMPROVED**

Biennial Report users would benefit from having a simultaneous user capability to help improve their work. We found that the BRS mainframe software slows data entry for a user. For example, officials at two regions and three states stated that the BRS does not allow more than one person to have access to the system at the same time.

A regional official explained that while a state is entering data, the regional office could not run a report at the same time. The region had to wait for the state to log off the system. This slows and complicates the process for obtaining reports. The regional official described the capability needed as a simultaneous update capability. This concern was also raised by the NGA in a report dated June 5, 1995, which recommended that EPA allow simultaneous users to enter Biennial Report data.

OSW officials told us that while they did not change BRS to allow a simultaneous user capability because of limited available resources, they implemented changes to permit data entry into multiple BRS databases. They also streamlined the effort required to combine the multiple databases into a single BRS database after completing the data entry process. During the audit, we were told that use of multiple databases can cause merging problems and data inaccuracies when the data

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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is transferred into the single database. Also a regional official pointed out that RCRIS has a simultaneous user capability. Another official said RCRIS and BRS use the same programming language and were described as old mainframe type systems that are difficult to work with for most users. We believe that a simultaneous user capability would assist the states and regions to provide more efficient data entry for Biennial Report reporting.

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**RECOMMENDATIONS**

We recommend the Assistant Administrator for the Office of Solid Waste and Emergency Response initiate the following actions for the 1999 Biennial Report process or as soon as possible:

- 2-1. Streamline and redesign the Biennial Report forms and instructions to make them clearer and easier for generators and TSDs to complete. During this process, OSW should examine the changes that selected states made to their individual forms and instruction packages and incorporate the best improvements.
- 2-2. Revise the Biennial Report codes (system type, form and source) to reduce the confusion experienced by generators and TSDs.
- 2-3. Reemphasize the Reporting Database and provide additional training on it to assist users in obtaining more useful information from BRS.
- 2-4. Educate the states regarding the use of existing electronic enhancements to improve their data collection and reporting activities.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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- 2-5. Improve the availability and access for all users by making BRS available at users desktop computers.
  - 2-6. Revisit the issue of allowing simultaneous user capability to improve the BRS by permitting more efficient data entry.
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**AGENCY COMMENTS  
AND OIG EVALUATION**

The Agency agreed with the recommendations in our report. The Agency will for the 1999 Biennial Report make additional streamlining changes to the instructions and forms and will review selected state actions and incorporate improvements. OSW has allocated funds to reevaluate state information and requirements for hazardous waste activity reporting relating to codes. This study will begin later during FY 1997 and should be completed in early 1998.

In the fall of 1997, OSW plans to conduct BRS training sessions for state users that will emphasize the Reporting Database to help them obtain useful information from BRS. During the training sessions, OSW will also educate state users about different electronic reporting enhancements. In addition, OSW will work with the National Governors' Association to provide state users with shared experiences concerning use of electronic reporting for the Biennial Report. OSW also will develop a simultaneous user capability to simplify data entry for the 1997 Biennial Report process.

We agree with these actions and believe they will result in an easier and more useful Biennial Report process and BRS.

Biennial Hazardous Waste Data:  
Opportunity for Improvement

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## CHAPTER 3

### IMPACT OF EPA's 1997 BIENNIAL REPORT CHANGES

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EPA has made recent Biennial Report changes that affect the Agency's ability to characterize and manage the nation's hazardous waste program. First, the Agency will no longer gather information or report on waste minimization activities. Second, EPA is no longer collecting hazardous waste capacity planning data in the Biennial Report process. Third, the Agency has initiated changes to ensure that wastewater data does not skew Biennial Report information.

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#### WHY WASTE MINIMIZATION REPORTING IS IMPORTANT

One of the main goals of RCRA is to minimize the generation of hazardous waste in this country. The statute states:

*The objectives of this Act are to promote the protection of health, and the environment and to conserve valuable material and energy resources by...minimizing the generation of hazardous waste and the land disposal of hazardous waste by encouraging process substitution, materials recovery, properly conducted recycling and reuse, and treatment.*

EPA and other regulatory agencies in the states have used Biennial Report data to measure the progress of waste minimization. However, the Information Collection Request (ICR) for the 1997 Biennial Report data collection process does not include the

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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requirement for reporting on waste minimization activities.

Waste minimization is an important tool in assuring the protection of human health and the environment, and in conserving valuable resources. However, state officials told us that better information needs to be collected on the amount of waste minimized, recycled, reused, or sold for reuse. For example, Kentucky has one facility that was the state's largest generator of hydrochloric acid waste. The acid was disposed by underground injection until a market was found for the waste. Now, the waste is no longer counted as a generated waste.

The fact that this facility was able to find a market for this waste is noteworthy and should be shared with other industry facilities in the hope of reducing other wastes. Normally, a state does not know why or when a waste is no longer generated. States would like to have this type of information available, but the only way to find out about reuse or recycling is to go to the industry itself.

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**1997 BIENNIAL  
REPORT ICR MAY  
NOT MEET WASTE  
MINIMIZATION  
STATUTORY  
REQUIREMENTS**

According to Section 3002 (a) of RCRA, regulated entities must report every two years on various activities including:

*the efforts undertaken during the year to reduce the volume and toxicity of waste generated and the changes in volume and toxicity of waste actually achieved during the year in question in comparison with previous years.*

While this reporting is not required to be part of the Biennial Report, it is a required reporting item for OSW. According to OSW officials, the waste minimization questions appearing in the 1995 Biennial Report forms were not providing useful information. OSW also said that the questions gave an incomplete picture of waste minimization

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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activities nationwide because responding to the questions was optional. As part of an effort to achieve a 25% reduction of the paperwork burden on regulated entities, EPA eliminated the waste minimization questions from two forms in the 1997 Biennial Report package. None of the other forms in the Biennial Report package include this information on minimization activities. We believe the resulting 1997 Biennial Report data collection will not contain the information required to meet the statutory requirement.

While the Biennial Report is not specified as the required report for obtaining waste minimization data, the Agency will have to find another data source as long as this is a statutory requirement. In fact, the Biennial Report ICR states that there are "other sources" for waste minimization data, but the Agency did not clearly identify the way in which this requirement will be met. "Other sources" of data might include: (1) the certification on the manifest; (2) Toxics Release Inventory (TRI) waste minimization information; and (3) comparisons of the amount of hazardous waste produced between 1995 and 1997. Yet, these other sources do not appear to be adequate to meet the statutory requirements.

First, no federal requirement exists for RCRA manifests to be submitted to an outside entity such as the state or EPA. As a result, manifest information would only be available where a state requires generators to submit manifests to the appropriate state agency. Even so, manifests would not contain all the information specified by RCRA Section 3002(a). Second, though TRI waste minimization data may be extensive, an EPA work group concluded in October 1993 that the universe of facilities that report under both TRI and BRS only contains a 25% overlap of facilities, and that wastes reported under both TRI and BRS only had a 15% overlap. Third, OSW is trying to develop a methodology to measure and evaluate progress towards the waste minimization goals using 1991 data as

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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compared to 1999 data. OSW will face a problem doing this comparison because the waste minimization questions have been eliminated from the 1997, and possibly the 1999, Biennial Report process. Even using OSW's methodology as a substitute for future Biennial Report data, OSW will still need information on "efforts undertaken during the biennial reporting year to reduce the volume and toxicity of waste generated" to meet the statutory requirement. We believe that the Agency clearly needs to determine how it will satisfy the statutory waste minimization reporting requirements.

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**WASTE MINIMIZATION  
INSTRUCTIONS WERE  
DIFFICULT FOR  
FACILITIES TO  
UNDERSTAND**

An additional concern is that the Biennial Report instructions for waste minimization activities was often viewed as unclear and difficult for regulated entities to understand. Because of the difficulty in understanding the instructions, waste minimization information provided by the reporting community may not always have been complete or accurate. Thus, presenting a true national picture for waste minimization information and activity was often difficult to determine. This issue exists regardless of whether waste minimization reporting is part of the Biennial Report process, or if it is to be satisfied some other way.

Several of the states we visited commented that most of the questions they had gotten from generators in the past were related to the waste minimization section of the Biennial Report forms. One state we visited had taken actions to improve its waste minimization information. For example, the Illinois State Office of Pollution Prevention helped rewrite the instructions for the waste minimization portion of the report. For any future effort, we believe EPA needs to make the instructions for waste minimization more understandable.



**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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**AGENCY CONCLUDED  
THAT HAZARDOUS  
WASTE CAPACITY  
IS ADEQUATE**

Information collected for the Biennial Report has been used to assist states in preparing their hazardous waste capacity assurance plans required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended. CERCLA requires states to assure that adequate capacity exists to manage hazardous wastes generated in their states for 20 years, before EPA can expend any Superfund Remedial Action Trust funds in the states. EPA used data submitted by the states to determine national capacity. The Agency's 1996 National Capacity Assessment Report states that EPA's analysis has shown adequate national capacity through the year 2013, but that hazardous waste planning activities should continue at the state level. The report also concludes that:

*...there is no guarantee that the current projected surpluses of hazardous waste management capacity will continue to exist. Because of this the Agency will continue to assess the national capacity situation...and will continue to collect and evaluate additional data to ensure that the requirements of CERCLA 104 (c) (9) are satisfied.*

**Capacity Planning  
Data Was Requested  
Starting with 1993  
Biennial Report**

A 1990 EPA report on RCRA implementation recommended that the Biennial Report be used to support the capacity planning process. EPA and NGA worked together to revise the Biennial Report for 1991 to include the collection of data for capacity planning. Starting in 1993, OMB required the Agency to identify which parts of the Biennial Report forms submitters were required to fill out, and which ones were voluntary. The form containing the capacity data was designated as voluntary. OMB's concern was to reduce the paperwork burden on those filling out the forms.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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**Capacity Planning Data Will No Longer Be Collected in the Biennial Report Process** Starting with the 1997 Biennial Report, capacity planning data will not be collected. Although one of the primary data sources for states' capacity analyses was the Biennial Report, the Agency obtained OMB approval to eliminate the Biennial Report form that was used to collect the capacity planning data. While some states have other sources for capacity planning, some have relied on the Biennial Report data. OSW officials believe that other sources of data are available to track capacity. Their position is that most states do in-state or regional capacity planning, and as a result they support removing the statutory requirement from CERCLA.

OSW expects capacity planning requirements to be eliminated when the Superfund legislation is reauthorized and does not expect to collect any more information using future Biennial Report data. They believe that in the future states will be responsible for planning and managing their own waste capacity. Currently, EPA is treating the 1996 report as baseline information and will examine the effect of any changes in future legislation. OSW officials told us they have updated the waste capacity baseline with specific Agency and private sector capacity analyses.

A majority of states supported removal of the capacity information from the Biennial Report process, while some states did not. A regional official told us that eliminating capacity planning from the Biennial Report process was a mistake, because it provided needed consistency for planning purposes. Further, some states depend on and use Biennial Report data to plan and manage their waste capacity. In the absence of the collection of capacity planning information using the Biennial Report process, we believe that EPA should ensure states receive specific information from future Agency updated assessments. Providing information to the states would help EPA to address the adequacy of the Nation's hazardous waste

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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capacity to treat and dispose of hazardous waste.

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**WASTEWATER CAN  
SKEW HAZARDOUS  
WASTE DATA**

A large amount of hazardous wastewater is produced in the United States. According to the 1993 Biennial Report, 258 million tons of RCRA hazardous waste were generated. Of the 258 million tons of hazardous waste, at least 85% or 220 million tons was managed wastewater. The large quantities of wastewater represent relatively few wastes, if the water was concentrated to a solid mass, and tend to skew Biennial Report data. The Agency is interested mainly in solid waste amounts because of the increased risk associated with hazardous solid waste.

One example of hazardous waste being overstated by wastewater was in Tennessee where one facility accounted for 99% or 33.5 million tons of the state's total hazardous waste generation. Of this amount, 33.4 million tons were actually wastewater. Another example where wastewater caused overstatement was found in New Jersey. In that state one facility accounted for 95% or 17.1 million tons of the state's total hazardous waste generation. Of this amount, about 17 million tons was wastewater. We believe that OSW should develop a means (for example, a chart) to more clearly show the users of the National Biennial RCRA Hazardous Waste Report the impact of hazardous wastewater amounts on the data as compared to lesser non-aqueous solid hazardous waste amounts.

**EPA Resolves  
a Similar  
Wastewater  
Concern**

In a related issue, EPA has resolved a long standing concern about exempt wastewater being included in the Biennial Report data from generators and TSDs. For the 1995 Biennial Report, if a generator or TSD had even one RCRA-permitted process on site, then all hazardous wastewater was included in their data submission. OSW has now determined for the 1997 Biennial Report that generators and TSDs will no longer be required to report any RCRA hazardous wastes

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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managed in exempt units, including wastewater quantities.

We also had identified this particular issue and planned on making a recommendation to address this point. Since OSW has now taken this action, we are not making a recommendation to address this issue. However, we are making a recommendation to address the impact that hazardous wastewater has on the National Biennial Report data as we have discussed above.

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**RECOMMENDATIONS**

We recommend the Assistant Administrator for the Office of Solid Waste and Emergency Response:

- 3-1. Assess the type of data required and specify how RCRA Section 3002(a)'s reporting requirement will be met.
- 3-2. Recommend changes to Section 3002(a) during RCRA reauthorization to better match Agency reporting abilities with the statutory requirement for waste minimization reporting.
- 3-3. Ensure states receive specific information for their waste planning efforts from any future Agency waste capacity reassessments.
- 3-4. Develop a means (such as a chart) to more clearly show the users of the National Biennial RCRA Hazardous Waste Report the impact of hazardous wastewater amounts on the data as compared to lesser non-aqueous solid hazardous waste amounts.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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**AGENCY COMMENTS  
AND OIG EVALUATION**

OSWER agrees with the recommendations in our report. For waste minimization, OSWER will assess the data required to meet the requirements and will determine what information it needs to collect and report under Section 3002 (a) of RCRA. OSWER also plans during its evaluation of waste minimization information needs to determine what statutory changes may be needed and proposed during the RCRA reauthorization process. Further, OSW agreed to provide any future EPA results of waste planning analysis and planned changes in capacity to the states to help them with their individual capacity planning efforts. Finally, OSW will develop and provide detailed information regarding each state's hazardous wastewater and non-wastewater quantities for its 1995 Biennial Report which is currently under development.

We believe these Agency corrective actions will address our findings and recommendations contained in this chapter. Further, we believe these Agency actions will result in significant improvements to the current Agency program.

**Biennial Hazardous Waste Data:  
Opportunity for Improvement**

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APPENDIX I

FEB 11 1997

OFFICE OF  
SOLID WASTE AND EMERGENCY  
RESPONSE

MEMORANDUM

SUBJECT: Response to Draft Audit Report No. E1DSF6-11-0001  
"Biennial Hazardous Waste Data:  
Opportunity for Improvement"

FROM: Elliott P. Laws *Elliot P. Laws, Jr.*  
Assistant Administrator  
for Solid Waste and Emergency Response

TO: Michael D. Simmons  
Deputy Assistant Inspector General  
For Internal Audits

The Office of Solid Waste and Emergency Response (OSWER) has reviewed the subject draft audit report, and we concur with the recommendations made in the report.

We have planned appropriate actions to implement changes in the biennial reporting process and the Biennial Reporting System (BRS) data system according to these recommendations. Specific responses are provided in the attachment to this memorandum.

We appreciate the opportunity to review and comment on this report. We also wish to express our thanks to the Headquarters Audit Division for the amount of time and hard work they were willing to invest in this audit process. Their concerted effort to understand these issues led to the development of meaningful and practical recommendations that we believe will improve the biennial reporting process and the BRS data system.

If you have any questions, please contact Myra Galbreath of the Office of Solid Waste (OSW) at 703-308-8739, or Andrew Kreider, OSWER audit liaison, at 202-260-9192.

Attachment

**APPENDIX I**

cc: Tim Fields  
Michael Shapiro  
Myra Galbreath  
Dev Barnes  
Johnsie Webster  
Andrew Kreider  
Anne Andrews  
Jess Plonka  
Michael Prater



Recommendation 2-1

Streamline and redesign the Biennial Report forms and instructions to make them clearer and easier for generators and TSDs to complete. During this process, OSW should examine the changes that selected states made to their individual forms and instruction packages and incorporate the best improvements.

Response

The Office of Solid Waste (OSW) agrees with the finding that the Biennial Reporting (BR) requirement reflects the complexity of the Resource Conservation and Recovery Act (RCRA). OSW has taken significant steps to simplify reporting for the 1997 reporting cycle and is engaged in a longer-term effort to reduce the complexity and burden of hazardous waste reporting. OSW has included states in the development of past biennial reporting forms including the changes introduced for 1997. In accordance with the recommendation, OSW will consult with states regarding potential streamlining changes and state innovations for the 1999 reporting forms.

The streamlining changes developed for the 1997 BR forms cycle achieve a 21% reduction in the overall volume of the reporting package and even greater reductions in complexity. Following consultation with states, regulated industry and the public, OSW eliminated the requirement to report waste minimization, process systems and exempt waste information beginning with the 1997 report cycle. OSW also consulted with states to identify improvements to the 1997 reporting forms and instructions. These changes achieve significant streamlining of the reporting requirement by eliminating 44% (21) of the instruction pages, 20% (11) of the example pages, and 4% (2) of the code list pages. Furthermore, the sections eliminated were the most complex and least understood portions of the reporting requirement.

Recommendation 2-2

Revise the Biennial Report codes (system type, form and source) to reduce the confusion experienced by generators and TSDs.

Response

OSW agrees that every effort must be made to minimize respondent confusion regarding the categorization and classification of wastes and their management. OSW also agrees that codes and classifications for RCRA waste handling should be as consistent as feasible across RCRA record keeping and reporting requirements. Improved consistency in RCRA information and reporting requirements is a major goal of the Waste Information Needs (WIN) initiative.

OSW has allocated funds to begin a re-evaluation of state information and implementation requirements with regards to hazardous waste activity reporting. States will lead this WIN initiative analysis of hazardous waste activity monitoring and reporting requirements. This focused study is targeted to begin in fiscal year 1997 and should be completed in early 1998.

Both source and form code are optional fields for national reporting and OSW proposed eliminating them from the 1997 EPA BR forms. States opposed this change and industry comment regarding changes to the 1997 BR reporting requested that changes to the requirement should be minimized until states and EPA have agreed upon major revisions to the requirement. A review of customized state forms packages shows that most translating states also continue to rely on the BR system type codes to classify waste management methods. OSW believes that further changes to the biennial reporting requirement, beyond those planned for 1997, should be considered within the context of a complete re-assessment of hazardous waste activity reporting as is being pursued under the WIN initiative in fiscal year 1997.

Recommendation 2-3

Re-emphasize the Reporting Database and provide additional training on it to assist users in obtaining more useful information from BRS.

Response

OSW recognizes that ad-hoc or custom reporting from BRS is difficult for system users who are not skilled in the FOCUS query language. To address this issue OSW offers yearly training

sessions in BRS reporting (except 1996 due to budget constraints). OSW plans to conduct BRS training sessions again in the Fall of calendar year 1997. In accordance with the recommendation, OSW will emphasize BRS data access and reporting tools including the Reporting Data Base.

#### Recommendation 2-4

Educate the states regarding the use of existing electronic enhancements to improve their data collection and reporting activities.

#### Response

OSW recognizes that some states have achieved significant innovations in the area of electronic reporting. OSW has supported the use of these innovations in conjunction with BRS and will continue to do so. In accordance with the recommendation, OSW is working with the National Governors Association (NGA) to support a forum for states to share their experiences and innovations in BRS electronic reporting. OSW will share the information developed in this forum with states and will emphasize BRS electronic reporting support in the Fall 1997 BRS training sessions.

#### Recommendation 2-5

Improve the availability and access for all users by making BRS available at users desktops.

#### Response

OSW agrees that BRS data should be made available to users via their desktop systems. While comprehensive BRS systems re-design is a long term effort that must be pursued under WIN, OSW has been involved in several projects to provide desktop access to BRS data. BRS desktop access is currently available from the following sources: Internet access to BRS data via the Right To Know Network (RTK-Net) web site at <http://www.rtk.net>; and CD-ROM access to BRS data via the commercially produced "Environmental Factors" CD-ROM. OSW is also collaborating with the Office of Information Resources Management (OIRM) on the integration of BRS

data in the Agency-wide EnviroFacts data base and with the Office of Enforcement and Compliance Assurance (OECA) on the integration of BRS data with the Integrated Data for Enforcement Analysis (IDEA) data base.

In addition, OSW is beginning a pilot project during 1997 to transfer BRS data to Oracle databases. While this pilot is not expected to produce desktop accessibility for BRS data in 1997, the longer-term goal of the project is to provide a desktop interface to BRS data bases via EPA's wide area network and the Internet.

#### Recommendation 2-6

Revisit the issue of allowing simultaneous user capability to improve the BRS by permitting efficient data entry.

#### Response

OSW agrees that simultaneous update capability will simplify the BR data entry process and intends to introduce this capability for the 1997 reporting cycle.

#### Recommendation 3-1

Assess the type of data required and specify how RCRA Section 3002 (a)'s reporting requirement will be met.

#### Response

OSW agrees that we need to assess the type of data needed for waste minimization purposes and their relationship to the reporting requirements of RCRA Section 3002(a). In accordance with the Inspector General's (IG) recommendation, OSW is currently in the process of evaluating the best methods for satisfying the information requirements related to RCRA 3002 (a). This evaluation is examining data needs from several perspectives: 1) meeting the data needs of the Waste Minimization National Plan (WMNP) and Government Performance and Results Act (GPRA); 2) meeting the needs of regions and states as they relate to the WMNP and GPRA; and 3) meeting the needs of waste minimization trend reporting. OSW will evaluate not just the

Biennial Reporting System for meeting data needs, but also the Toxics Release Inventory (TRI) and other reporting systems.

For waste minimization, these different systems (with their own and somewhat divergent focuses) are each expected to provide partial but potentially complementary information -- quantities of waste streams versus quantities of constituent chemicals in waste streams, for example. Obtaining an understanding of what information each system can offer about waste minimization is vital for the development of a robust waste minimization measurement methodology as well as for identifying the general trends in waste minimization that may be occurring. By evaluating the information from these different systems, OSW believes that the requirements of 3002 (a) should be met.

#### Recommendation 3-2

Recommend changes to section 3002 (a) during RCRA re-authorization to better match Agency reporting abilities with the statutory requirements for waste minimization reporting.

#### Response

In accordance with the IG recommendation, OSW is reevaluating the information needed for waste minimization purposes. If OSW finds that it is statutorily constrained by the reporting requirements under RCRA to meet its waste minimization needs, OSW agrees that the reauthorization process can be a good mechanism to alleviate those constraints. Alternatively, if OSW finds that some of the reporting requirements are unnecessary, again, the reauthorization process can be a good mechanism to remove those requirements deemed unnecessary.

#### Recommendation 3-3

Ensure states receive specific information for their waste planning efforts from any future reassessments.

#### Response

OSW agrees that any future EPA analysis regarding observed and/or planned changes in capacity should be made available to

states and will do so.

Recommendation 3-4

Develop a means (such as a chart) to more clearly show the users of the National Biennial RCRA Hazardous Waste Report the impact of wastewater amounts on the data as compared to lesser non-aqueous solid hazardous waste amounts.

Response

The National Biennial RCRA Hazardous Waste Report currently identifies the quantities of wastewater and non-wastewater management and their relative percentages of the total reported management. Based on the IG recommendation, OSW will enhance this chart to show how the wastewater and non-wastewater quantities are broken out for each state. OSW will implement this change beginning with the 1995 report.

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