

GAO

Resources, Community, and Economic Development Division

**July 1995** 

**Energy and Science Issues Issue Area** 

**Active Assignments** 

# Foreword

This report was prepared primarily to inform Congressional members and key staff of ongoing assignments in the General Accounting Office's Energy and Science Issues issue area. This report contains assignments that were ongoing as of July 6, 1995, and presents a brief background statement and a list of key questions to be answered on each assignment. The report will be issued quarterly.

This report was compiled from information available in GAO's internal management information systems. Because the information was downloaded from computerized data bases intended for internal use, some information may appear in abbreviated form.

If you have questions or would like additional information about assignments listed, please contact Victor Rezendes, Director, on (202) 512-3841; or Bernice Steinhardt, Associate Director, on (202) 512-6543.

# Contents

		Page
MANAGI	ING DOE	
	• DEPARTMENT OF ENERGY GENERAL MANAGEMENT REVIEW CAPPING REPORT.	:
	• REVIEW OF DOE'S ENVIRONMENTAL WORK FORCE INCREASES.	:
New	• DEPARTMENT OF ENERGY: FOLLOW-UP ON PROPERTY MANAGEMENT PROBLEMS AT THE ROCKY FLATS PLANT.	
	• FINANCIAL AND OPERATING CONDITIONS OF PMAS.	2
New	• HUMAN AND FINANCIAL RESOURCES USED IN ACCOMPLISHING THE MISSIONS OF THE DEPARTMENT OF ENERGY.	2
WEAPON	S COMPLEX DOWNSIZING & CLEANUP	
	• DOE'S PROGRESS IN IMPLEMENTING ITS COMPREHENSIVE EPIDEMIOLOGIC DATA RESOURCE (CEDR) PROGRAM.	2
	• DEPARTMENT OF ENERGY: SAVINGS FROM DEACTIVATING FACILITIES CAN BE BETTER ESTIMATED.	3
	• DETERMINE DOE HANFORD'S PROGRESS IN CHARACTERIZING ITS HIGH-LEVEL RADIOACTIVE WASTE.	3
New	• RECURRENCES OF REPORTED EVENTS AT DOE SITES.	3
New	• COST-EFFECTIVENESS OF DOE'S ENVIRONMENTAL TECHNOLOGY DEVELOPMENT PROGRAM.	4
BALANC	ING ENERGY SUPPLY AND DEMAND	
	• ANALYSIS OF THE TENNESSEE VALLEY AUTHORITY'S LOAD FORECASTING AND DEBT LOAD ISSUES.	4
New	• REVIEW OF BPA'S USE OF SEASONAL POWER EXCHANGES.	4
ENERGY	/ENVIRONMENT TRADEOFFS	
	• REVIEW OF NRC'S INSPECTION PROGRAM.	5
New	• UNRESOLVED REGULATORY AND OPERATIONAL ISSUES AFFECTING DOE'S WASTE ISOLATION PILOT PLANT.	
New	• BRIEFINGS AND OTHER ASSISTANCE TO THE HOUSE REPUBLICAN TASK FORCE ON THE DEPARTMENT OF ENERGY IN THE AREA OF REMOVING THE CIVILIAN RADIOACTIVE WASTE PROGRAM FROM DOE.	5
	• REVIEW OF THE DEVELOPMENT OF ADVANCED BATTERIES FOR ELECTRIC VEHICLES.	6
SCIENCE	& TECHNOLOGY	
	• AN IMPACT ASSESMENT OF THE ADVANCED TECHNOLOGY PROGRAM (ATP).	6
	• LESSONS LEARNED BY FIVE STATE CENTERS UNDER THE PILOT TECHNOLOGY ACCESS PROGRAM (TAPP).	Ć
New	• REVIEW OF THE SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PILOT PROGRAM.	7
INTERNA	ATIONAL NUCLEAR SAFETY & CONTROLS	
	• SAFETY OF FSU NUCLEAR FACILITIES.	7
	•FSU NUCLEAR MATERIAL CONTROLS.	7
New	• STATUS OF NUCLEAR POWER PLANT IN CUBA.	8
OTHER I	SSUE AREA WORKENERGY & SCIENCE	
	• URANIUM MILL TAILINGS PROGRAM.	8
New	• REVIEW OF THE UNITED STATES ENRICHMENT CORPORATION'S PRIVATIZATION PLAN.	8
New	• CONSIDERATION OF CARRY-OVER BALANCES IN DOE'S BUDGET DEVELOPMENT PROCESS.	g

#### **MANAGING DOE**

#### TITLE: DEPARTMENT OF ENERGY GENERAL MANAGEMENT REVIEW CAPPING REPORT (170020)

BACKGROUND: This report will be the final report of the <u>DOE</u> GMR. Drawing largely on the completed and ongoing reports supporting this effort, and supplemented by additional audit work as necessary, it will lay out for both DOE and Congress the fundamental challenges facing the agency and suggest potential options for addressing its many deep-rooted problems.

KEY QUESTIONS: (1) What are the fundamental problems in managing the Department of Energy? (2) What are the possible solutions to these problems? (3) For addressing its many missions, what are the advantages and disadvantages of keeping DOE as it is currently structured?

## TITLE: REVIEW OF DOE'S ENVIRONMENTAL WORK FORCE INCREASES (302126)

BACKGROUND: DOE's Environmental Restoration Program has been designated a pilot project under the Government Performance and Results Act of 1993, allowing DOE to add up to 1,600 new employees to manage its clean-up effort. DOE estimated that the pilot would result in savings of about \$200 million, in part by eliminating contractor employees.

KEY QUESTIONS: (Q1) What is the process DOE used to justify the 1,600 new hires for FY 94-96? (Q2) Did DOE's justification support claimed budget savings and productivity improvements? (Q3) How is DOE assuring itself that established cost savings and productivity improvements will be achieved?

TITLE: DEPARTMENT OF ENERGY: FOLLOW-UP ON PROPERTY MANAGEMENT PROBLEMS AT THE ROCKY FLATS PLANT (302150)

#### MANAGING DOE

TITLE: FINANCIAL AND OPERATING CONDITIONS OF PMAS (307335)

BACKGROUND: Seeking to reduce deficits and the scope of federal activities, legislative proposals and the administration's fiscal year 1996 budget request seek to privatize DOE's power marketing administrations (PMAs). Estimated budget savings range from \$3.7 to \$11.5 billion. Given this level of interest, GAO will examine the current financial and operating conditions of the PMAs.

KEY QUESTIONS: What are the current financial and operating conditions of the PMAs?

TITLE: HUMAN AND FINANCIAL RESOURCES USED IN ACCOMPLISHING THE MISSIONS OF THE DEPARTMENT OF ENERGY (308679)

#### WEAPONS COMPLEX DOWNSIZING & CLEANUP

TITLE: DOE'S PROGRESS IN IMPLEMENTING ITS COMPREHENSIVE EPIDEMIOLOGIC DATA RESOURCE (CEDR)
PROGRAM (302111)

BACKGROUND: DOE agreed in 1990 to full access to its workers' epidemiologic data by interested outside researchers. Since 1992, DOE has made data from past epidemiologic studies available through its Comprehensive Epidemiologic Data Resource (CEDR) database. The Chairman is concerned that the system DOE has developed is not as comprehensive and useful as originally envisioned.

KEY QUESTIONS: (Q1) How well does the current CEDR program meet the intended objectives of being a central resource for all DOE-sponsored epidemiological studies? (Q2) Does the current CEDR program meet the intended objectives of accessibility and usability for outside researchers?

#### WEAPONS COMPLEX DOWNSIZING & CLEANUP

TITLE: DEPARTMENT OF ENERGY: SAVINGS FROM DEACTIVATING FACILITIES CAN BE BETTER ESTIMATED (302123)

BACKGROUND: DOE expects to spend \$723 million during fiscal year 1995 to manage inactive facilities and to provide landlord services at major clean-up sites.

KEY QUESTIONS: (1) What proportion of DOE's FY 1995 inactive facilities and landlord budget is allocated to projects that will reduce the future cost of managing inactive facilities? (2) How much will these projects reduce the program's future costs? (3) How reliable are DOE's estimates of potential cost savings from major deactivation projects?

TITLE: DETERMINE DOE HANFORD'S PROGRESS IN CHARACTERIZING ITS HIGH-LEVEL RADIOACTIVE WASTE (302133)

BACKGROUND: In 1991 we reported that DOE Hanford would probably not meet the September 1998 deadline for completing characterization of the waste in Hanford's underground storage tanks. Subsequently, DOE renegotiated the Tri-Party Agreement characterization milestone extending it to 1999. The Chairman asked us to determine DOE's progress.

KEY QUESTIONS: Q.1 What progress has DOE made in characterizing the waste in Hanford's underground storage tanks? Q.2 What role is played by the state of Washington and EPA in ensuring DOE's progress?

#### TITLE: RECURRENCES OF REPORTED EVENTS AT DOE SITES (302148)

BACKGROUND: DOE requires its managers and contractors to report, and take actions to prevent the recurrence of, events at DOE sites that could adversely affect facility operations, the environment, or the safety and health of workers or the public. However, reported events often recur, sometimes with significant adverse consequences.

KEY QUESTIONS: Q1. What are some types of reported events that have recurred at DOE sites and what adverse consequences have resulted? Q2. What issues influence DOE's effectiveness in using past experience to prevent recurrences of reported events?

#### WEAPONS COMPLEX DOWNSIZING & CLEANUP

TITLE: COST-EFFECTIVENESS OF DOE'S ENVIRONMENTAL TECHNOLOGY DEVELOPMENT PROGRAM (302151)

#### **BALANCING ENERGY SUPPLY AND DEMAND**

TITLE: ANALYSIS OF THE TENNESSEE VALLEY AUTHORITY'S LOAD FORECASTING AND DEBT LOAD ISSUES (307333)

BACKGROUND: The Tennessee Valley Authority (TVA) is a federally-owned corporation that generates and transmits electricity to a 7-state area. Concerns were raised about TVA's power sources, projections for future electricity demand (i.e., load forecasting), and future competitiveness as TVA approaches a congressionally-authorized debt ceiling of \$30 billion (i.e., debt load).

KEY QUESTIONS: Q1- How did TVA project electric load in the past and how does it now? How can its methodology be improved? How does TVA use the forecasts in its resource decisions? Q2- What is the status of TVA's integrated resource planning (IRP)? Q3- What is the status of its power program? Q4 - What is TVA's current and projected financial condition? How competitive are its rates?

# TITLE: REVIEW OF BPA'S USE OF SEASONAL POWER EXCHANGES (307336)

BACKGROUND: Proposals suggest benefits to salmon stocks, ratepayers in the Northwest and electricity customers in other Western states if BPA's system were managed to provide increased river flows for salmon during migrations and if such increased flows were used to generate power for seasonal exchanges. GAO will examine BPA's past use and current plans to use such exchanges.

KEY QUESTIONS: To what extent has the Bonneville Power Administration (BPA) used seasonal power exchanges with other utilities?

#### **ENERGY/ENVIRONMENT TRADEOFFS**

TITLE: REVIEW OF NRC'S INSPECTION PROGRAM (302122)

BACKGROUND: The NRC inspection program is designed to ensure that licensees such as the South Texas Project are designing, constructing, testing, and operating their nuclear power plants in a safe manner. The role of the resident inspector program is to determine how well the licensee is performing and to ensure the licensee corrects poor performance whenever identified.

KEY QUESTIONS: (Q.1) Has NRC's inspection program at South Texas Project identified weaknesses before they have become significant safety events? (Q.2) What factors, utility and/or NRC weaknesses, led to the forced shut down of this nuclear power plant? (Q.3) Has NRC resolved all allegations it has investigated concerning construction and operation of the plant?

TITLE: UNRESOLVED REGULATORY AND OPERATIONAL ISSUES AFFECTING DOE'S WASTE ISOLATION PILOT PLANT (302143)

TITLE: BRIEFINGS AND OTHER ASSISTANCE TO THE HOUSE REPUBLICAN TASK FORCE ON THE DEPARTMENT OF ENERGY IN THE AREA OF REMOVING THE CIVILIAN RADIOACTIVE WASTE PROGRAM FROM DOE (302154)

#### ENERGY/ENVIRONMENT TRADEOFFS

TITLE: REVIEW OF THE DEVELOPMENT OF ADVANCED BATTERIES FOR ELECTRIC VEHICLES (308881)

BACKGROUND: A major obstacle to electric vehicle commercialization is the need for advanced batteries to provide satisfactory range, power, and recharging. In 1991, the U.S. Advanced Battery Consortium (USABC) was formed between the automakers, electric utilities and DOE to fund advanced battery research. Planned funding was \$262 million over 4 years, with DOE paying 50 percent.

KEY QUESTIONS: (1) How has DOE overseen the activities of the USABC? (2) What is the rationale for establishing both mid-term and long-term performance and cost goals for advanced batteries? (3) What progress has been made in meeting the mid-term and long-term goals? (4) How much funding has the consortium spent, and how much more, if any, is needed?

#### **SCIENCE & TECHNOLOGY**

TITLE: AN IMPACT ASSESMENT OF THE ADVANCED TECHNOLOGY PROGRAM (ATP) (307723)

BACKGROUND: NIST's Advanced Technology Program (ATP) funds companies' high-risk R&D solely to support their commercial success. ATP budgets are growing from \$200M in FY93 to a requested \$450M in FY94 and \$740M in FY97. Our most recent ATP work (suspended) reported that ATP evaluation activities have not provided credible evidence of impacts. This job will determine the impacts of ATP.

KEY QUESTIONS: For companies that applied to ATP: 1) has ATP had the impact of funding research that would have otherwise gone unfunded? 2) could the same objectives have been achieved without the use of federal funds, i.e., are federal funds redundant?

TITLE: LESSONS LEARNED BY FIVE STATE CENTERS UNDER THE PILOT TECHNOLOGY ACCESS PROGRAM (TAPP) (307724)

BACKGROUND: The Pilot Technology Access Program (TAPP), authorized under PL 102-140, established centers in five states to encourage the transfer of technology to small businesses. Since the program will not be funded after FY 1995, the House Committee on Small Business requested that we conduct a broad review of the experiences of and lessons learned by the five centers.

KEY QUESTIONS: (Q1) How effective is TAPP in encouraging the transfer of technology to small businesses? (Q2) What are the lessons learned by the five pilot centers that can be applied to other technology transfer programs?

#### SCIENCE & TECHNOLOGY

TITLE: REVIEW OF THE SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PILOT PROGRAM (307732)

#### INTERNATIONAL NUCLEAR SAFETY & CONTROLS

#### TITLE: SAFETY OF FSU NUCLEAR FACILITIES (170258)

BACKGROUND: The Senate will soon be asked to ratify an international nuclear safety convention that covers civilian nuclear power plants but not other nuclear facilities which pose various safety and health risks. Many of these other nuclear facilities—both military and civilian—operate in the former Soviet Union, where there is limited regulatory authority.

KEY QUESTIONS: (1) What are the major nuclear facilities—other than power plants—in the former Soviet Union? (2) Based on available information, what are the safety, health, and environmental hazards posed by these facilities? (3) What assistance efforts are underway or planned to address safety problems?

#### TITLE: FSU NUCLEAR MATERIAL CONTROLS (170262)

BACKGROUND: Concern is mounting that deteriorating economic and social conditions in the Former Soviet Union (FSU) could accelerate the proliferation of weapons of mass destruction and advanced conventional arms. Nonproliferation controls, such as export controls, material control and accountancy, either don't exist or many not have been effectively implemented.

KEY QUESTIONS: (1) What is the nature and extent of the nuclear material control problem in the FSU? (2) What is the status and prognosis of the U.S. programs to assist the FSU in strengthening nuclear controls? (3) How will proposed transfer of CTR portion of programs from DOD to DOE affect program implementation?

# INTERNATIONAL NUCLEAR SAFETY & CONTROLS

TITLE: STATUS OF NUCLEAR POWER PLANT IN CUBA (170263)

#### OTHER ISSUE AREA WORK -- ENERGY & SCIENCE

#### TITLE: URANIUM MILL TAILINGS PROGRAM (302136)

BACKGROUND: P.L. 95-604 directed DOE to cleanup 24 inactive processing sites by 1988. DOE expects to finish in 1998--2 years after is authority ends and at a cost of \$1.3 billion. DOE is initiating ground water cleanup which will take several years. NRC and EPA are also involved with the program.

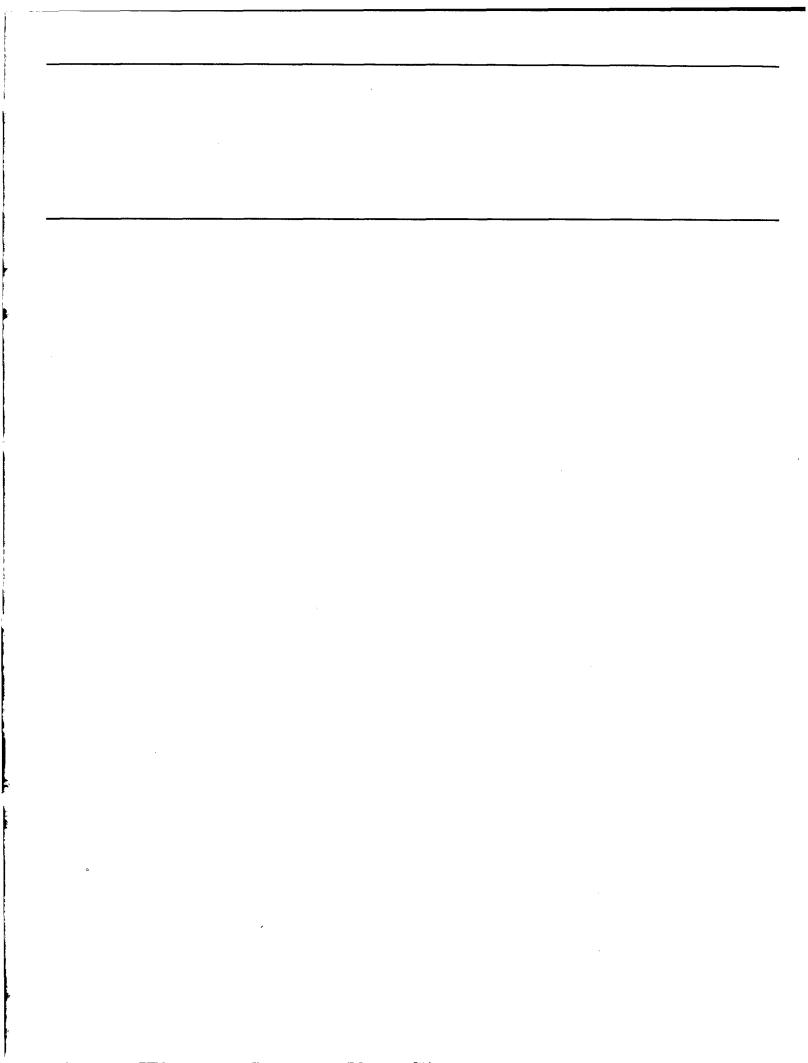
KEY QUESTIONS: (1) Why has the program exceeded its estimated costs and time frames? (2) What could extend the program beyond its authorization date and DOE's est. costs? (3) Has the cleanup impacted human health? (4) What's the status of DOE's groundwater cleanup? (5) Are there any major differences between the Title I and II cleanup? (6) What post-UMTRA issues will DOE need to resolve?

## TITLE: REVIEW OF THE UNITED STATES ENRICHMENT CORPORATION'S PRIVATIZATION PLAN (302146)

BACKGROUND: The Energy Policy Act of 1992 established the U.S. Enrichment Corporation and required it to develop a privatization plan by July 1995. The Act also requires GAO to review the plan and report to the Congress before the plan is implemented.

KEY QUESTIONS: Q.1 What undue costs and ongoing liabilities would the government assume as the result of USEC's privatization plan? Q.2 Will USEC's privatization plan return at least the net present value of the corporation to the government?

.



JAC -	Distribution	es <u>General Act</u> n for Unrestr (Form 115-U)		lce	
Report Number and T GAO/AA- <b>95-19 (3)</b> Energy and Science		active Assignmen	[ ] Classified	eck one, if app	•
B-Number Budg N/A 250,	et Function Codes 270	Issue Areas/Li 6400	nes of Effort	Assignment Code	2
	Form 115-R (Distrib GAO Reports) used		t	-	
Reports to recipients with	an asterisk (*) will be he	and carried by:		====================================	
<pre>[1. External ] Standard Recipients Copies Recipient</pre>				Transmittal (Check one, if a Brief Ba	pplicable)
Senate App  Senate Gove  Senate Gove  Dir., Offi  Speaker Of  President  House Comm	opriations Comm., A rnment Operations Comm., ernmental Affairs Commental Affairs Commental Affairs Commander Management & the House of the Senate erce (Legislative) et Comm., Attn:rgy and Water Devel	Comm., Attn: Attn: <u>Keith Kenn</u> Comm., Attn: Budget, Attn:	Comm.	[ ] [ ]	. GAO F.371 [ ] [ ] [ ] [ ]
Senate Ene Senate Bud Ranking Mi Comms. & S	(Appropriation rgy and Natural Res get Comm., Attn: nority Mbrs. of ubcomms	ources	Comm.		
[2. ] Enter T	otal No. of Copies	Listed in the Fo	orm 115-1:	<u>31</u>	

4

	========							
Initial Distribution Continued								
[3. Internal]								
Copies Room No. Recipient								
Applet Comptending Company Plan	mima ( Damaut	<b>!</b>						
Assist. Comptroller General, Plan		ing						
7125 Office of Congressional Relations	Assist. Comptroller General, Policy							
1842 ACG, Originating Division/Office-		RCED						
1842 Cognizant Director of P & R -	Mike Gryszko							
5 1842 Cognizant Director -	Vic Rezendes							
Cognizant Associate Director -	Bernice Stein							
CT 201 Gognizant Assistant Director -	Lowell Minin	ger, ULL Bldg						
Cognizant Divison Report Review								
O Office of Public Affairs		•						
To participating regional offices	and audit si	tes:						
Bos Alston	<del></del>							
201 Susan Boyd, ULL Bldg.		•						
25 E-172 Vanda Martin, Germantown 10 3B00 VOPP	<del></del>							
<u>10</u> 3800		•						
Add the Total No. of Copies listed in [3] above:	260	·						
and the local no. of copies listed in [5] above.	a u	-						
[A. ] Enter Total Initial External & Internal Dis	tribution: 3/γ	(Add items [1], [2] and [3] above)						
Subsequent Distribution								
[4.] Subject Codes No. Copies S	ubject Codes	No. Copies						
•								
· · · · · · · · · · · · · · · · · · ·		0						
<u> 2617 74</u>		0						
		0						
[E ] Distribution to the New Madia	•	No. Contro						
[5.] Distribution to the News Media		No. Copies						
N/A_		0						
N/ A	<del></del>	<del></del>						
	<del>-</del>							
[6.] Enter Number of Copies for One-Time Recipien	ts (Typed labe	els must be attached): 0						
Enter Total No. of Labels Attached: 0	oo (lypea last							
_								
[B. ] Enter Total Subsequent Distribution: _ 74	(Add items [4	], [5], and [6] above.)						
	========	=======================================						
Determining Number of Copies to be Printed								
	Q Ot							
[C.] Reserve Stock: [ O ] Add [A,B,C &	D] <u>311</u>							
[7] 1								
	opies on GAO F							
Office of Mgmt & Budget: [②] Enter Grand 7	rotal (Total N	o. Copies to be Printed)						
Approvals and Contact Information								
Approved by:		For more infor., contact						
approved by.		for more infor., contact						
Vic Rezendes	6/29/95	Lowell Mininger						
Signature of Director or Comparable Official	Date	Name						
	,							
Keith Fultz	_1 1	512-6875						
Signature of ACG or Comparable Official	Date	Telephone Number						
		<del>-</del>						

Continuation Sheet for Report Distribution (Form 115-1) (Attach this form to GAO Form 115-U or 115-R) Report Number and Title Check appropriate box: GAO/AA-95-19 (3) Energy and Science Issues Issue Area Active Assignments [X] Attachment to 115-U, Unrestricted Report Attachment to 115-R, Restricted Report Classification: (check one, if applicable) [ ] Classified [ ] Proprietary Assignment Code Continuation of Initial External Distribution Copies Recipient Transmittal Document (Check one if applicable) Brief Basic Nonbasic Ltr. The Honorable Hazel O'Leary [ ] Department of Energy 1/000 Independence Washington, DC 20585 Sterling Ross, DOE [ ] [] 1000 Independence Ave., SW Room 4A-128 Washington, DC 20585 ∕John Hunt, Atlanta RO [ ] [ ] 2635 Century Pkwy., Suite 700 Atlanta, GA 30345 Ron Guthrie, Denver RO [ ] [ ] 1244 Speer Blvd., Suite 800 Denver, CO 80204-3581 Tony Krukowski, Detroit RO [ ] [ ] 477 Michigan Ave., Suite 865

United States General Accounting Office

Add Total No. of Copies: 31

P.O. Box 578

Detroit, MI 48226-2576

Bill Swick, Seattle RO

Margie Shields, San Francisco RO

301 Howard St., Suite 1200 San Francisco, CA 94105-2252

Richland, WA 99352

[ ]

[ ]

[ ]

[ ]