



# memorandum

DATE: November 28, 2006

Audit Report Number: OAS-L-07-03

REPLY TO

ATTN OF: IG-32 (A06PR022)

SUBJECT: Audit of the "Department of Energy's Carbon Sequestration Program"

TO: Assistant Secretary, Office of Fossil Energy

## INTRODUCTION AND OBJECTIVE

Carbon sequestration is the capture and storage of carbon dioxide and other greenhouse gases that would otherwise be emitted into the atmosphere. The Department of Energy's Carbon Sequestration Program (Program) seeks to move sequestration technologies forward in order that their potential can be realized and they can play a major role in reducing greenhouse gas emissions. The Program's overarching goal is to develop by 2012 fossil fuel conversion systems that offer 90 percent carbon dioxide capture with 99 percent storage permanence at less than a 10 percent increase in the cost of energy services.

The Program is managed within the Office of Fossil Energy and implemented through the National Energy Technology Laboratory (NETL). The Program directly implements the President's Global Climate Change Initiative, issued in March 2001, as well as several National Energy Policy goals targeting the development of new technologies. It also supports the goals of the Framework Convention on Climate Change and other international collaborations to reduce greenhouse gas intensity and greenhouse gas emissions. The Program's budget for Fiscal Year 2006 was about \$67 million. The objective of our audit was to determine whether the Program was making progress toward achieving its goals and Program funds were used for their intended purpose.

## CONCLUSIONS AND OBSERVATIONS

We found that the Program was making progress toward achieving its goals and funds were used for their intended purpose. However, during the audit, we observed some instances of cost growth and schedule slippage for research, development, and demonstration (RD&D) projects under the Program. In addition, NETL project managers did not always document their monitoring of progress and cost against critical project milestones (critical milestones) on RD&D projects. RD&D projects are awarded to acquire scientific, technical, and engineering knowledge to work towards the overall objective of achieving commercialization of advanced technologies. Schedule slippage and cost overruns could negatively impact the Program's ability to meet its carbon sequestration goals.

NETL has recognized the need to improve project oversight by documenting critical milestones for RD&D projects. Beginning in Fiscal Year 2006, NETL implemented actions to include critical milestones in RD&D project objectives and track actual progress against these milestones in quarterly progress reports. However, NETL does not estimate or track the project costs associated with the critical milestones. Currently, project costs are only estimated and reported each quarter in the aggregate for the entire project. By estimating and tracking both schedule and costs for critical milestones on the same basis, the Department's project managers will be better able to evaluate true project cost and schedule performance. Therefore, we suggest that NETL further enhance its RD&D project oversight by requiring awardees to estimate and report on project costs concurrent with critical milestones. Monitoring the cost of critical milestones will help identify potential cost overruns that could impede Program progress.

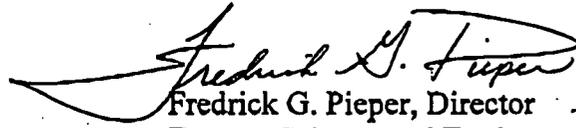
### SCOPE AND METHODOLOGY

The audit was performed from April through August 2006, at Department of Energy Headquarters in Washington, D.C.; NETL in Pittsburgh, Pennsylvania; and, a regional partnership in Norcross, Georgia. The audit scope included Program activities for Fiscal Years 2003 through 2006 and specific RD&D projects funded by the Program that were active or in the closeout process. To accomplish the audit objective, we:

- Determined whether selected projects were properly awarded, monitored, and meeting work scope and cost sharing requirements;
- Reviewed prior audits, reviews, and studies related to the Program; and,
- Assessed whether Program funds were being used for their intended purpose.

The audit was performed in accordance with generally accepted Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We assessed performance measures established under the *Government Performance and Results Act of 1993* and determined that the Office of Fossil Energy had established performance measures to move carbon sequestration technologies forward so that their potential can be realized. We relied on computer-processed data to accomplish the audit objective. When appropriate, we performed limited test work of data reliability during our audit and determined that we could rely on the computer-processed data. The Office of Fossil Energy waived the exit conference.

Because no formal recommendations are being made in this letter report, a formal response is not required. We appreciate the cooperation of your staff and the NETL staff.



Fredrick G. Pieper, Director  
Energy, Science and Environmental  
Audits Division  
Office of Inspector General

cc: Chief of Staff  
Under Secretary of Energy  
Under Secretary for Science  
Director, NETL  
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