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DEPARTMENT OF ENERGY

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COMMITTEE ON SCIENCE

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Mr. Chairman and members of the Subcommittee, I am here in response to your July 18, 1996, letter of invitation to testify on funding for Department of Energy research and development in a constrained budget environment.

The Office of Inspector General has completed a number of audits in the general area of cooperative agreements, cost sharing arrangements and the Department's recoupment decisions. One of our objectives has been to determine if the interests of the taxpayers have been given appropriate consideration in recoupment decisions on research and development joint ventures between the Government and the private sector.

As required by Public Law 98-473, Joint Resolution Making Continuing Appropriations for FY 1985 and for Other Purposes, the Department of Energy established a Clean Coal Technology Program (commonly referred to as CCT). The Department stated that the purpose of the program was to successfully demonstrate a new generation of advanced coal-based technologies and to stimulate the transfer of the most promising of these technologies into the domestic and international marketplace. The Department established a goal to recover an amount up to the taxpayers' investment in successfully commercialized projects.

On June 6, 1996, we issued an audit report on this subject, entitled, "Audit of Department of Energy's Activities Designed to Recover the Taxpayers' Investment in the Clean Coal Technology Program." Our audit showed that the Department's recoupment practices limited its opportunity to recover the taxpayers' investments.

Decisions regarding these recoupment practices were made without the benefit of economic analyses to determine their impact on the Department's goal of recouping the taxpayers' investment. We recommended that the Department formally analyze and justify any decision in future recoupment efforts that limits the Department's ability to recover the taxpayers' investment in successfully commercialized technologies.

I would like to provide some background on the Clean Coal Technology Program. The CCT is a Department of Energy and industry cost-shared partnership established to demonstrate and commercialize a new generation of advanced coal-based technologies. It was envisioned that the CCT would play a major role in ensuring that the U.S. leads the world in developing, applying, and exporting sustainable, clean, and economically competitive energy technologies.

Under terms of the statute, the Department may not finance more than 50 percent of the total cost of any single project and may only share in project cost growth up to 25 percent of the originally negotiated Government share.

As of December 31, 1995, the Clean Coal Technology Program included 42 projects with a total estimated cost of $6.0 billion. The Department of Energy's cost share for these projects was approximately $2.3 billion while industry contributed about $3.7 billion. The projects were selected through five rounds of competitive solicitations over an 8-year period (1986-1993). Each cooperative agreement and ancillary documentation includes separate, negotiated terms which stipulate the Government funding commitment and the repayment responsibilities of the private sector sponsor.

The repayment agreements are for 20 years and they include specific language indicating that it is the intent of the Government to recoup up to the full amount of the taxpayers' contribution in each project once the technology has been successfully commercialized.

The audit included an examination of the CCT recoupment practices for 16 of the 42 projects. A detailed analysis was performed for 6 projects where recoupment decisions have affected the ability of the Department to recover the taxpayers' investment. The Department's cost share for these 6 projects was $151 million. The audit disclosed that because of its recoupment decisions, the Department limited its ability to recover an estimated $133.7 million of this cost. We found that recoupment decisions which exempted foreign sales, excluded some domestic sales, and lowered repayment rates were made without the benefit of thorough, documented economic analyses.

EXEMPTION OF FOREIGN SALES

The Department limited its opportunity to recover an estimated $120.3 million in four clean coal projects by exempting foreign sales from the repayment agreements. We were informed that this decision was made because of a general belief that sales of the technology would be in the domestic market and that the Department had concluded that a mechanism could not be established to verify sales outside of the United States.

A 1994 report prepared by the National Coal Council and sponsored by the Department concluded that an expansion of the foreign market for clean coal technologies was favorable. The National Coal Council's conclusion was supported by one of the project sponsor's forecasts for technology sales, which showed foreign sales approximately 1 1/2 times larger than its forecast for domestic sales. Further, we found that 75 percent of the projected worldwide growth in coal use was expected to occur outside the United States. Thus, it appeared that international sales represented an important market for the clean coal technology.

Regarding a verification mechanism, we concluded that, given the international nature of today's business, such a mechanism should be feasible. Therefore, we did not find the argument regarding devising such a system for international sales to be compelling. We noted, at the time of our audit, that the Department had not established a verification system for domestic sales.

The decision to exempt foreign sales from recoupment has an even greater impact when looking at the entire program. The foreign sales exemption applies to an additional 19 clean coal projects that will be completed in the future. The Department has invested over $1.4 billion in these projects. The exemption will greatly limit the Department's ability to recover the taxpayers' investment in successful commercialization of the projects outside the United States.

EXCLUSION OF SOME DOMESTIC SALES

The Department's decision to exclude some domestic sales from its repayment agreements resulted in missed opportunities to recoup an estimated $12.7 million on two projects.

The audit disclosed that the Department invested $17 million to demonstrate the technology in one project, and that this demonstration was instrumental in the successful testing and commercialization of the technology. The exclusion exempted $2.5 billion in sales in this project that could have resulted in a repayment of $12.5 million. According to a Department official involved in this project, the rationale for excluding these domestic sales was that the Department was not involved in the project initially and that the technology owner was not a recipient of any of the Department's funding for the project. We believe that it would have been appropriate for the Department to seek recoupment of its investment from sales of the technology.

The second project had $200 million in sales which would have resulted in $200,000 in recoupments. The Department contributed $63.9 million to this project without a repayment provision for sales made during the demonstration period. A Department official involved with this project stated that these sales were exempted because the Department did not believe that sales of the technology would occur prior to completion of the demonstration phase. However, we found that the demonstration phase lasted 3 years, and that some successful test results were available prior to the end of this phase. The

benefits associated with the technology were recognized in the marketplace and an order for the technology was placed prior to completion of the demonstration phase.

REDUCTION OF REPAYMENT RATES

Based on forecasted sales, the Department's decision to decrease repayment rates on projects resulted in a lost opportunity to recoup an estimated $700,000 on one project. The general guidance for Round I of the program did not include specific repayment rates. However, the guidance became more specific in Round II when the Department established a repayment rate policy at 2 percent of gross revenues. In Rounds III, IV, and V, the Department reduced the repayment rate policy to 0.5 percent of gross revenues.

Two additional participants in the project were a state agency and a utility association. Both parties provided funds to the project sponsor and negotiated separate repayment agreements with the sponsor based on the successful commercialization of the technology. Based on forecasted sales of the technology, we calculated that the Department can expect to recover 4.7 percent of the taxpayers' investment, while the state agency will recoup 41.3 percent of its investment and the utility association will recoup 9.5 percent of its investment. Because of the change in the Department's recoupment rate, the taxpayers will recover substantially less than the other project participants.

The Department indicated that the recoupment rates were reduced to bring them more in line with current business practice. However, there was no

documentation to support the Department's contention that there was a model in current business practice that applied to the CCT situation or that 0.5 percent was an appropriate business rate to be used on projects of this type. In fact, an industry official indicated that the repayment rate of 0.5 percent was too low and that it should have been between 1 and 5 percent depending on the technology's commercial potential. The audit disclosed that this lower repayment rate may impact 20 additional projects negotiated in Rounds III, IV, and V.

BASIS FOR RECOUPMENT DECISIONS

Department officials believed that their less stringent recoupment provisions would assist in making the technologies more competitive, lessen delays in the cooperative agreement negotiation process, and maintain industry's interest in the program. However, an economic analysis was not performed to determine the effect of the decisions nor their impact on the Department's goal to recoup up to the taxpayers' investments. As a result, we recommended that the Department formally analyze and justify future recoupment decisions that limit the Department's ability to recover the taxpayers' investment. Management concurred with our recommendation.

In 1991, consistent with our finding and recommendation, the U.S. General Accounting Office (GAO) issued a report, "Improvements Needed in DOE's Clean Coal Technology Program," which recommended that the Department analyze the effect that recoupment provisions have had on industry participation in the CCT Program and the likelihood of recovering the Federal

investment. The GAO also recommended that this analysis should be the basis for DOE to reevaluate its recoupment policy, specifically, to determine whether it should be strengthened to provide greater assurance that the Federal investment in successfully demonstrated technologies will be recovered. Our audit revealed that the Department had not taken any action to satisfy the GAO's concerns.

RECOUPMENT PROCEDURES

In order for the Department to meet its intended goal of recouping up to the taxpayers' investment, controls should be established to ensure that moneys for which the Government is entitled are tracked, accounted for, and verified. The Department had not established any formal financial recoupment policies and procedures, nor had it instituted any mechanism to monitor clean coal project repayments. A Department official acknowledged that a financial policy for the recoupment of the taxpayers' investment in clean coal projects did not exist.

We recommended that the Department establish financial policies and procedures over Departmental recoupment activities and implement mechanisms to ensure that sponsor repayments are timely, accurate, and complete. In responding to our report, the Department stated that it planned to develop such policies and procedures for inclusion in the Department's Accounting Handbook. This action is expected to be completed by January 31, 1997. In addition, as a result of the audit, the Department created a Repayment

Process Improvement Team which recommended actions to track, account for, and verify moneys due from sponsors.

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

I would like to discuss two audits dealing with cooperative research and development agreements at the Department's national laboratories. The Department of Energy contracts with management and operating contractors to operate its national laboratories. The laboratories are involved in multiple areas of research and development in science and nuclear technologies. This includes efforts to transfer technology developed at the laboratories to the private sector. One of the mechanisms used to achieve this goal is the Cooperative Research and Development Agreement (CRADA). As part of these agreements, the Government contributes facilities, personnel, and equipment, commonly referred to as funds-in-kind, while the private sector partner may make cash payments to the Government in addition to its own in-kind contributions. The Department intended that CRADAs provide mutual benefits to the Department and industry, such as leveraging scarce research and development resources, increasing the exchange of ideas, and providing access to facilities, equipment, and experts.

To put the use of this type of agreement in some perspective, as of November 1994, the Sandia National Laboratories, one of the Department's largest laboratories, had 210 agreements totaling approximately $546 million. The Department's cost share for these agreements was about $241 million. Of

the industry partners' $306 million cost share, about $272 million was in-kind, with the remaining $34 million being cash payments to the Department. Our December 30, 1994, report " Audit of Verification of Cooperative Research and Development Agreement Partner Funds-In-Kind Contributions at Sandia National Laboratories," disclosed that current practices were inadequate for verifying partner in-kind contributions.

We also audited the Department's administration of CRADAs at several other national laboratories. That audit report, issued on May 19, 1995, disclosed that efforts to manage cooperative research and development agreements at Los Alamos, Oak Ridge and Lawrence Livermore National Laboratories did not fully achieve the Department's policy goals. As was the case in our earlier audit at Sandia, we found that agreement provisions did not ensure an accurate valuation of partner contributions. Specifically, we found that: (i) the three laboratories did not employ standard accounting and audit procedures with appropriate tracking of funds to verify the value partners assigned to their in-kind contributions and (ii) the Department established cost sharing goals without any mechanism to validate that partners were meeting their cost share commitments. As a result, we recommended that the Department establish a mechanism to ensure proper valuation of partner contributions to CRADAs. DOE management did not agree with our conclusion and recommendation. In responding to our report, management contended that implementing rigid controls would undermine the success of the CRADA program and would limit the ability to

transfer technology to the private sector. We believe the recommended controls are not "rigid," but are responsible actions which would assist the Department in achieving the goal of expanding research and development activities in a constrained budget environment. Therefore, we are not in agreement with the Department's position on this matter.

This concludes my prepared remarks, Mr. Chairman. I will be pleased to answer any questions you and your colleagues may have.