

GAO

Report to the Chairman, Environment,  
Energy, and Natural Resources  
Subcommittee, Committee on  
Government Operations, House of  
Representatives

March 1993

# FOSSIL FUELS

## Ways to Strengthen Controls Over Clean Coal Technology Project Costs



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**Resources, Community, and  
Economic Development Division**

B-251947

March 31, 1993

The Honorable Mike Synar  
Chairman, Environment, Energy,  
and Natural Resources Subcommittee  
Committee on Government Operations  
House of Representatives

Dear Mr. Chairman:

The Department of Energy's (DOE) Clean Coal Technology (CCT) program has been under way since 1986, and \$2.75 billion has been appropriated for the program to provide cost-sharing assistance to industry-sponsored projects that demonstrate innovative technologies for using coal in a highly efficient, environmentally sound, and economically competitive manner. DOE funds up to 50 percent of project costs, and the project sponsor and other nonfederal participants fund the balance. Concerned about whether DOE has adequate controls over project costs, you requested that we determine (1) how DOE assures itself that proposed project costs are reasonable, (2) whether incurred project costs are audited on a timely basis, and (3) how third-party contributions to projects affect federal cost-sharing and sponsor financing.

**Results in Brief**

DOE has adequate procedures and has made a good effort to review the reasonableness of sponsors' proposed project costs before projects began. Project files contained information on how questioned cost estimates were resolved in all but one case that we reviewed.

However, after projects were under way, incurred cost audits were not performed in a timely manner to ensure that project sponsors submitted only allowable costs for federal reimbursement. Few audits have been conducted to date, although most of the active projects from the first three rounds of the program have been underway for several years. Also, several projects have been withdrawn or completed without audits, and the sponsor of one of them is currently in bankruptcy proceedings. For the most part, DOE uses the Defense Contract Audit Agency (DCAA) to conduct the audits. DCAA, however, has an extensive audit backlog. Although they may not always be as desirable, options exist for obtaining more timely audit coverage.

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Third-party contributions were part of project sponsors' financing for 24 active and completed projects in the first three rounds of the program. The cash contributions totaled about \$312.4 million, and the in-kind contributions, such as donated property and services, were valued at about \$19.7 million. DOE allows sponsors to include third-party contributions in the sponsor's share of project financing, rather than sharing such contributions with DOE. This procedure increases DOE's investment and financial risk in projects while decreasing the sponsor's investment and risk. In some cases, sponsors have been able to significantly reduce their direct investment in projects. For example, in 13 cases the sponsors are only funding from 0 to 24 percent of total project costs. By sharing in third-party contributions with project sponsors, DOE could reduce the government's expenditures and increase the sponsors' incentive to meet project cost, schedule, and performance goals.

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## Background

The CCR program is being implemented through a series of competitive solicitations, or rounds of projects. DOE evaluates and selects projects on the basis of proposals submitted by sponsors in response to each solicitation. Of the 38 projects funded from the first three rounds of the program, 30 were active, 5 were withdrawn, and 3 were completed as of December 1992. Nine additional projects were selected from the fourth round of the program in September 1991 but were not included in our review because they were just getting under way when most of our work was completed.

Projects are carried out and funded under cooperative agreements between DOE and the project sponsor. The agreements are administered by DOE's Pittsburgh and Morgantown Energy Technology Centers (PETC and METC), which oversee the projects. During the cooperative agreement formalization process, DOE reviews all aspects of the sponsor's project proposal, including proposed costs and financing, and obtains additional information from the sponsor to clarify any issues of concern. Although the agreement is between DOE and the project sponsor, nonfederal third parties, such as coal companies, equipment and technology suppliers, engineering and construction firms, research institutions, and host utilities, may participate in a project by providing financing, goods, or services or by providing demonstration sites.

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## DOE Has Done a Good Job of Assessing Project Cost Estimates During Preaward Reviews

PETC and METC review sponsors' cost proposals after projects are selected, but before they begin, to determine whether the direct cost estimates and the projected indirect cost rates are reasonable to use as a basis for negotiating a price for a cost-sharing cooperative agreement. PETC and METC also review sponsors' accounting systems to determine whether they are adequate for segregating, accumulating, and reporting a project's cost. Although the procedures used by the two energy centers differ, as discussed in appendix I, both centers have made good efforts to assess cost estimates and document how questioned costs were resolved before completing cooperative agreements.

Our review of PETC and METC files for 16 projects revealed only one instance in which DOE did not resolve a cost that had been questioned during preaward reviews.<sup>1</sup> The cost estimate for this project included \$1.5 million that the sponsor, a subsidiary of a company that owns several electric utilities, planned to claim as an in-kind contribution for the cost of electricity needed to operate the project. A preaward review by an independent public accountant (IPA) firm questioned \$1.2 million of the proposed contribution because it included profit—which is an unallowable cost. The preaward review report stated that because the utility could not separate the potential profit from the utility's base rate, the entire \$1.2 million was questionable. The other \$0.3 million was based on an expected rate increase.

PETC's files for this project showed that PETC was aware of the questioned cost. However, we found no documentation in the PETC files indicating how the questioned cost was resolved. Also, two PETC officials involved with this project told us that they could not recall if a calculation of the profit factor in the electricity base rate had been obtained from the project sponsor. PETC documents indicate that this issue was not raised in the final negotiations that took place before the cooperative agreement was signed.

If questioned costs are not resolved before completing a cooperative agreement, they could be treated as project costs by the sponsor and reimbursed by DOE once the project is under way. DOE officials agreed with our concern but said that after projects are under way, sponsors' claimed costs could differ from estimates, and DOE relies on incurred cost audits to identify any unallowable costs that might have been claimed by a sponsor and reimbursed by DOE. The officials emphasized that any federal funds spent on unallowable costs would be recovered on the basis of these audits. This assumes that the audit would identify the unallowable cost.

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<sup>1</sup>Appendix III discusses how we selected the 16 projects to review.

Also, as discussed in the following section, our review showed that several years can pass before an incurred cost audit is done. During that time, the project sponsor has the use of federal funds paid for any unallowable costs.

## Audits of Incurred Project Costs Are Not Performed on a Timely Basis

Incurred project costs have not been audited in a timely manner because DCAA has an extensive backlog of audits for federal agencies and DOE is reluctant to conduct the audits itself or use IPAS. Delays by DOE in requesting audits may also have contributed to the delays in obtaining them. Also, DOE did not obtain timely cost data needed for audits of two projects. DOE officials agree that timely audits are essential to ensure that federally reimbursed project costs are allowable. There are options for obtaining incurred cost audits more expeditiously.

## Delays in Obtaining Incurred Cost Audits

According to DOE officials, DOE's policy on audits does not state how often incurred cost audits of clean coal projects should be done. We noted that DOE's acquisition regulations (48 C.F.R. 942.7003-1(a)) require that DOE request incurred cost audits annually for contracts where annual costs exceed \$500,000. Although clean coal projects are funded under cooperative agreements and are not subject to this requirement, they generally involve much higher annual federal expenditures than the dollar threshold that would require contract costs to be audited.

DOE relies almost exclusively on DCAA to perform incurred cost audits on clean coal projects.<sup>2</sup> DOE officials told us that DOE does not have the staff or resources to conduct such audits itself. However, DCAA has completed relatively few of the incurred cost audits requested by DOE. The demand for audit coverage that DOE and other federal agencies place on DCAA has resulted in a significant governmentwide audit backlog of about 3 to 5 years. According to a recently issued Office of Management and Budget (OMB) report,<sup>3</sup> many federal agencies are concerned about the timeliness of audits. The report pointed out that an OMB survey of nine major federal agencies showed that incurred cost audits for contracts were requested to be completed in 1 year or less but actually took 3 to 5 years to complete.

As of December 1992, DOE had requested that DCAA perform incurred cost audits on 25 of 30 active projects from the first three rounds of the

<sup>2</sup>These audits are done on a reimbursable basis through a Memorandum of Understanding between DOE and DCAA that became effective as of January 1, 1991.

<sup>3</sup>Interagency Task Force Report on the Federal Contract Audit Process, OMB, (Dec. 3, 1992).

program. Most of the projects have been under way from 2 to 5 years. However, DOE had only received audit reports from DCAA on five active projects and from IPAS on two active projects. One of the IPA-audited projects is sponsored by a state organization that is required, under the Single Audit Act of 1984,<sup>4</sup> to have its financial statements audited annually by an IPA. DOE had not asked for audits on the five other active projects because they had not incurred significant costs.

Timely audits are especially important for withdrawn and completed projects because it may be more difficult for DOE to recover any funds that may have been inappropriately spent on projects that have ended. DOE funded costs totaling about \$49.2 million on five withdrawn and three completed projects. However, two of the withdrawn projects and one of the completed projects had not been audited as of December 1992, and the others had received only limited audit coverage by DCAA or an IPA. The audits that were completed covered only the oldest incurred costs. For example, in one case, the project's 1988 costs had been recently audited, but not the 1989 costs, even though the project was withdrawn in December 1989. In another case, only the first 20 months of the project's costs had been audited, although the project incurred costs over a 5-year period before it was completed.

We noted that DOE often waited more than a year after projects were under way before requesting incurred cost audits, and in some cases more than 2 years. PETC is now requesting an audit shortly after signing a project cooperative agreement, while METC is still waiting a year or more after a project has begun incurring costs before requesting an audit.

In addition, we found that DOE did not obtain timely cost data needed for incurred cost audits of two of the eight projects that are no longer in the program. In one case, the project was withdrawn from the program in September 1991, and the Canadian sponsor submitted cost data to PETC at that time. However, PETC did not review the cost data for many months while it obtained other data needed to close out the cooperative agreement. When PETC did review the cost data, it found that the data were deficient in some areas and not properly summarized for an audit. PETC requested and received a second cost submission in November 1992, over a year after the first submission, but found that it also was incomplete and unacceptable. A PETC official told us that the sponsor resolved the problems with the cost data in January 1993. The official said that PETC

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<sup>4</sup>The Single Audit Act of 1984 (P.L. 98-502) and OMB Circular A-128 establish the single audit requirements for state and local governments.

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was trying to arrange for an audit of the sponsor's costs through a Canadian audit agency and has requested DCAA to audit the two U.S. subcontractors' costs for this project.

The other case involved a completed project that was in the CCT program from October 1988 to April 1992 but had never been audited. Although METC had asked the cognizant DCAA field office for a cost-incurred closeout audit in January 1992 and had contacted the sponsor in February 1992 to provide the necessary cost data, the data still had not been submitted to METC or DCAA as of December 1992. The utility sponsor of this project has been involved in bankruptcy proceedings since March 1990, and the power plant where the project was conducted has been sold to another power generating company. METC officials told us that they placed several telephone calls to the sponsor in 1992 but were unable to get information on the cost data. The officials said that they contacted the new owners of the plant in December 1992 and are trying to obtain the cost data through them.

PETC officials told us that they withhold federal funds to offset any potential unallowable costs that may have been reimbursed and to provide leverage to help ensure that sponsors provide close out documents and cost data in a timely manner. The officials also said that they retain 1 percent of DOE's share of the total estimated project cost for each budget period of a project, up to a maximum of \$100,000, until the incurred costs are audited. METC officials told us that they do not withhold federal funds from project sponsors for these purposes. To recover any unallowable costs that were reimbursed, METC would have to go to the sponsor.

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### Options for Obtaining More Timely Audits

There are options that DOE could consider for obtaining more timely incurred cost audits.

### Request Priority Audits for Some Projects

DOE could request that DCAA give priority to clean coal projects that warrant expedited audits, such as withdrawn or completed projects. The December 1992 OMB report recommended that federal agencies effectively communicate their audit priorities to the cognizant audit agency. However, PETC and METC officials told us that they have not asked for priority for incurred cost audits of clean coal projects because they do not believe there is anything they can do to get DCAA to complete audits sooner.



According to DCAA officials, DCAA generally selects contractors with the oldest costs in scheduling incurred cost audits. Then, DCAA evaluates the contractor's system and tests the allowability of costs incurred under all of the contractor's federal contracts, grants, and cooperative agreements that are in effect for the period being audited. The results are reported on the basis of the individual contract, grant, or agreement. The DCAA officials said that non-Department of Defense (DOD) contractors receive the same audit priority as DOD contractors and that a non-DOD agency, such as DOE, can request, and in some cases receive, audit priority. We were told that the DCAA field office will decide whether it can accommodate a request for audit priority.

DCAA officials said that before a field office will schedule an audit, the contractor or organization to be audited must submit its incurred costs and indirect rates to that office. According to the DCAA officials, it is the responsibility of the requesting agency's contracting officer to ensure that this information is provided. As previously indicated, we noted two instances in which audits of clean coal projects may have been delayed due to incomplete or untimely cost submissions. According to the recently issued OMB report, untimely cost submissions by federal contractors in general is a problem contributing to DCAA's audit backlog.

## Use Independent Public Accountants

DOE could also consider using IPAS to obtain more timely incurred cost audits. According to DCAA officials, the use of IPAS to audit clean coal project costs is permissible under the DOE-DCAA Memorandum of Understanding for DCAA audits. However, DOE has concerns about the quality of IPA audits done in the past and is currently not using IPAS for clean coal projects, except where required under the Single Audit Act. DOE officials told us that, on the other hand, they are satisfied with the quality of DCAA's work and that they prefer to use DCAA's audit services. The officials indicated that DCAA's experience and expertise are worth the delay in receiving audit reports.

We recognize that it may be desirable for DOE to use DCAA for incurred cost audits of project sponsors and subcontractors, particularly when DCAA has an established relationship with those firms and may even have DCAA staff on site. However, in cases in which such relationships are not present, or in cases in which DOE needs but cannot obtain a priority DCAA audit, DOE should consider using IPAS with appropriate oversight provided by DOE's Office of Inspector General. There may be occasions when the timeliness of an audit is critical, such as an unplanned termination or sponsor bankruptcy.

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**DOE Should Consider Having Sponsors Share the Costs of Audits**

Under the present CCT program, audits are funded solely by DOE. We noted, however, that OMB Circulars A-128 and A-133 require state and local governments, institutions of higher education, and other nonprofit institutions that receive federal funds to obtain audits and allow them to charge their costs to the federal programs. If this approach was taken in the CCT program, the cost of audits would be added to the total project cost and cost-shared by the sponsor and DOE. Including the cost of audits in the total project cost would reduce DOE's cost of obtaining the audits.

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**DOE'S Treatment of Third-Party Cash and In-Kind Contributions Decreases the Sponsor's Share of Funding**

DOE relies heavily on sponsors to manage projects to meet cost, schedule, and performance goals and has pointed to sponsor funding as a basis for this reliance. At the same time, DOE allows project sponsors to include third-party cash and in-kind contributions in the sponsor's share of project financing. This practice has significantly reduced the sponsor's direct investment in some projects. We also identified one case in which DOE allowed a project sponsor to claim an in-kind contribution for equipment that had been used in a cost-shared arrangement on another federally assisted project.

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**Basis for Allowing Third-Party Cash and In-Kind Contributions**

Public Law 99-190, which first appropriated funding for the CCT program, provides that DOE cannot finance more than 50 percent of the total costs of a project but does not define how much of the nonfederal share project sponsors, rather than third parties, must fund. This law also provides that in-kind contributions in the form of existing facilities, equipment, and supplies may be included in project costs to be shared with DOE to the extent that they are amortized, depreciated, or expensed in normal business practice. But the law does not distinguish between sponsor and third-party in-kind contributions to projects.

In practice, DOE requires the sponsor to show how it intends to finance its share of estimated project costs before agreeing to participate in a project. DOE allows the sponsor to finance its share of costs with its own funds, its own in-kind contributions, third-party cash contributions, and/or third-party in-kind contributions. As projects are designed, built, and operated, sponsors submit costs to DOE for reimbursement of DOE's share.

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**Treatment of Third-Party Contributions Reduces Direct Sponsor Investment**

We determined that third-party cash and/or in-kind contributions were part of the sponsor's financing plan for 24 of the 33 active and completed projects in the first three rounds of the CCT program. Our analysis showed

that the third-party cash contributions totaled about \$312.4 million, involved 21 projects, and were to finance about 27 percent of these projects' total estimated costs. Our analysis also showed that the third-party in-kind contributions were valued at about \$19.7 million, involved 13 projects, and were to finance about 3 percent of these projects' total estimated costs. Although these in-kind contributions are small in total, they are a large part of the sponsor's financing for three projects, ranging from 48 to 57 percent. The in-kind contributions included such items as depreciation on facilities and equipment; the cost of electricity used for projects; and the value of donated equipment, coal, and other goods and services used in projects.

Our analysis showed that as a result of third-party cash and in-kind contributions, sponsors are funding less than 50 percent of the estimated costs on 22 of the 33 projects with their own cash and in-kind contributions. In 13 of the 22 cases, the sponsor's funding ranged from 0 to 24 percent of project costs. In 4 of these 13 cases, the sponsors are not providing any cash to fund their share of project costs. Three of these sponsors are providing their own in-kind contributions but no cash. The other sponsor is relying totally on DOE and third-party contributions to fund project costs. In the remaining 11 projects, sponsors are funding between 50 and 78 percent of total project costs with their own cash and/or in-kind contributions. (See app. II.)

In some cases sponsors may be able to reduce their ultimate financial commitment and risk even further by taking advantage of tax provisions, such as depreciation on their investment in equipment constructed under the program or certain tax incentives for the production and sale of synthetic fuels from coal.<sup>5</sup>

### Implications of Requiring Sponsors to Share Third-Party Contributions With DOE

DOE views industry as having the lead role in managing projects in terms of cost, schedule, and performance and has said that DOE's role is basically limited to monitoring progress and granting approval to proceed at key decision points. In a report to the Congress, DOE also stated that the CCT program relies on significant funding from sources other than the federal government, in particular, funds provided by the project sponsor. As stated above, some sponsors are providing relatively little funding. To the

<sup>5</sup>The House Conference Report (H. Rep. 99-450) to Public Law 99-190 stated that tax implications of project proposals and tax advantages available to individual proposers should not be considered in determining the percentage of federal cost-sharing. The report further stated that this is consistent with current and historical practices in DOE procurements.

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extent that sponsors have their own funds at risk, they may have more incentive to meet project cost, schedule, and performance goals.

An alternative way to treat third-party contributions on future clean coal projects would be to require sponsors to share such contributions with DOE. This sharing could result in reduced federal expenditures and reduced financial risks to the government, particularly on projects where third-party contributions are significant. For such projects, sharing could also increase sponsors' financial commitment and risk and, in turn, DOE's assurance that projects will be properly managed. For example, had DOE required equal sharing of third-party contributions on the 24 projects that had such contributions, its costs would have been reduced by about \$124 million, while the sponsors' costs would have increased by the same amount, assuming the sponsors funded 50 percent of the remaining costs. Sponsors may be able to help offset funds shared with DOE by securing additional contributions. In any event, DOE's expenditures and risk would decrease.

We discussed with DOE officials the possibility of requiring third-party contributions to be shared with the government. The officials argued that (1) DOE should not be concerned with how sponsors meet their share of project costs as long as DOE's share does not exceed 50 percent of total project costs; (2) sharing contributions would make it more difficult for some sponsors to meet the 50-percent minimum nonfederal financing requirement for projects and could result in fewer project proposals; (3) sharing contributions could lessen the incentive for the project sponsor to seek them and for the third party to provide them; (4) third parties that might have otherwise donated goods or services to the project may instead be more likely to sell them to the sponsor, and the costs would be shared by DOE; (5) sponsors might form joint ventures with third parties to keep from sharing third-party contributions with DOE; (6) the cost of some projects would be higher if contributed existing facilities were not used and new facilities had to be built; and finally, (7) DOE assumes that the sponsor is providing something of value to the third party in exchange for the contribution and that this consideration represents a cost to the sponsor.

We agree that sponsors may have to increase their financing if all third-party contributions are shared with DOE, and this increased financing may result in fewer project proposals. As discussed above, however, sponsors may be able to seek additional contributions to further offset any funds shared with DOE. Also, we believe that project sponsors would

continue to have a strong incentive to seek third-party contributions even if they were shared with DOE. Such contributions would still save the sponsor at least 50 percent of the funds contributed by third parties or the cost of purchasing equipment or services representing in-kind contributions. Also, the incentives for third parties to make the contributions and the benefits derived from the contributions would remain unchanged. Our discussions with third-party contributors suggest that they are seeking successful demonstration of the technologies for future business prospects or for first-hand experience with using new technologies rather than specific financial consideration from project sponsors. Also, about 35 percent of the third-party cash contributions were to be provided by research institutes and state organizations, which are seeking further development of clean coal technologies rather than financial gain.

### **DOE Allowed a Sponsor to Claim an In-Kind Contribution for Equipment That Had Been Cost-Shared on Another Project**

We identified one case in which PETC allowed the project sponsor to claim a \$1.1 million in-kind contribution for donated equipment that had previously been used in a cost-shared arrangement on another federally assisted demonstration project. This clean coal project is being conducted at the same utility site as a terminated project that was jointly funded by the Environmental Protection Agency (EPA) and the Electric Power Research Institute (EPRI). The clean coal project is also using the same equipment that was acquired and installed, at a cost of \$2.2 million, in the prior project. This cost had been shared equally by EPA and EPRI in the prior project, and EPRI contributed the equipment to the clean coal project at no cost to the sponsor after the prior project had ended.

In its clean coal project proposal, the sponsor asked that the \$2.2 million original equipment cost be considered as an in-kind contribution by the utility hosting the project. During its preaward review, DOE disallowed the \$1.1 million portion of the equipment cost that had been paid by EPA because federal assistance regulations provide that costs previously funded by a federal agency cannot be funded again. Because EPRI had not capitalized or depreciated the equipment before transferring ownership to the utility, DOE allowed the \$1.1 million in-kind contribution representing EPRI's investment in the equipment. In allowing this in-kind contribution, DOE records stated that the equipment was required for project performance and that if it had been necessary to purchase such equipment, the total cost would have been an allowable project cost.

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We question whether even the portion of the equipment cost funded by EPRI should have been accepted as an in-kind contribution and included in costs to be shared by DOE and the sponsor. If the nonfederal share of an asset's cost can be used in multiple cost-share projects, the federal government could ultimately end up funding most of the asset's total original cost.

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## Conclusions

Although DOE has done a good job of assessing project cost estimates during preaward reviews, DOE should take steps to ensure that all questioned costs are resolved and that the resolution is documented before completing project agreements. Where warranted, DOE should also attempt to obtain more timely incurred cost audits once projects are under way to ensure that any unallowable costs that may have been reimbursed by DOE are identified and recovered. Although they may not always be as desirable, options are available that could result in more timely audits. DOE could also better protect the government's interest by consistently requiring both PETC and METC to withhold a portion of federal project funds until necessary cost records are provided and incurred cost audits are complete.

Relevant legislation pertaining to the CCT program does not address how third-party contributions to projects are to be treated. Because DOE includes such contributions in the sponsor's share of project financing, some sponsors have little of their own funds at risk. DOE maintains that one of the characteristic features of the program is its reliance on sponsors to commit substantial funds to projects, thereby giving the sponsors an incentive to properly manage the projects and increasing the probability of success. If DOE were to share in the contributions with the sponsors, DOE could reduce its cost and risk, while providing sponsors with more incentive to properly manage their projects. We recognize that if sponsors had to invest more of their own funds, fewer project proposals might be submitted. We also believe that DOE should not cost-share the value of equipment that has been cost-shared on another federally assisted project.

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## Recommendations

To obtain more timely incurred cost audits and reduce the risk of not recovering any unallowable project costs, we recommend that the Secretary of Energy direct the Assistant Secretary for Fossil Energy to take the following actions:

- Resolve all proposed costs that are questioned during preaward reviews and document the basis for the resolution before completing cooperative agreements with project sponsors.
- Request that DCAA give priority to incurred cost audits of withdrawn and completed projects and any other projects where an expedited review of incurred costs is warranted.
- Establish procedures to uniformly withhold a portion of federal funds to offset any unallowable project costs that may have been reimbursed and make greater efforts to obtain timely and adequate incurred cost information for audit purposes.
- Consider using IPAs to conduct incurred cost audits for projects when DCAA cannot meet a priority request for audits.

We also recommend that in negotiating future cooperative agreements, DOE consider including the costs of incurred cost audits in the total project costs to be shared by DOE and the project sponsors. In addition, we recommend that DOE not cost-share the value of equipment that has been used in a cost-shared arrangement on another federally assisted project.

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## Matters for Consideration by the Congress

To reduce the government's cost and risk in funding clean coal technology projects, the Congress may want to consider directing DOE to not fund more than 50 percent of the total costs actually incurred by DOE and project sponsors.

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## Views of Agency Officials

We discussed the information presented in this report with DOE officials in charge of the CCT program, including the Deputy Assistant Secretary for Coal Technology. The officials agreed with the factual information presented, and their views on the issues we raised have been incorporated in the report where appropriate. However, as requested, we did not obtain written agency comments on a draft of this report.

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Our work was performed between January and December 1992 in accordance with generally accepted government auditing standards. Appendix III describes the scope and methodology of our review.

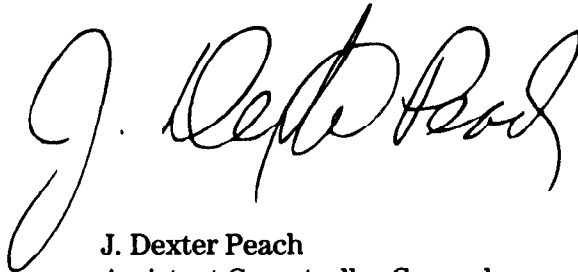
As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies of this report to the Secretary of Energy; appropriate congressional committees and

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subcommittees; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

This work was conducted under the direction of Victor S. Rezendes, Director, Energy and Science Issues, who may be reached at (202) 512-3841. Other major contributors to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

J. Dexter Peach  
Assistant Comptroller General





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**Abbreviations**

<b>CCT</b>	<b>Clean Coal Technology</b>
<b>DCAA</b>	<b>Defense Contract Audit Agency</b>
<b>DOE</b>	<b>Department of Energy</b>
<b>EPA</b>	<b>Environmental Protection Agency</b>
<b>EPRI</b>	<b>Electric Power Research Institute</b>
<b>GAO</b>	<b>General Accounting Office</b>
<b>IPA</b>	<b>independent public accountant</b>
<b>OMB</b>	<b>Office of Management and Budget</b>
<b>METC</b>	<b>Morgantown Energy Technology Center</b>
<b>PETC</b>	<b>Pittsburgh Energy Technology Center</b>
<b>DOD</b>	<b>Department of Defense</b>

# PETC and METC Procedures for Reviewing Project Sponsors' Cost Proposals, Accounting Systems, and Cost Submissions

Both the Pittsburgh Energy Technology Center (PETC) and the Morgantown Energy Technology Center (METC) assess the reasonableness of proposed project costs and the adequacy of sponsors' accounting systems for recording project costs. The centers also monitor incurred costs after projects are under way. The two energy centers' approaches to these tasks differ in some ways, as discussed in the following sections.

## Preaward Reviews

During the first round of the Clean Coal Technology (CCT) program, both PETC and METC requested the Defense Contract Audit Agency (DCAA) to review project sponsors' cost proposals as part of the energy centers' preaward review effort. In a few instances, these preaward audits were done by independent public accountant (IPA) firms under contract to the Department of Energy (DOE) Office of Inspector General. The preaward audits focused on the support for sponsors' proposed direct and indirect costs and in-kind contributions and the adequacy of sponsors' accounting systems.

PETC discontinued preaward audits after the second round of projects were brought under cooperative agreements; METC had stopped during the first round of projects. According to DOE officials, the auditors approached these reviews as if they were incurred cost audits, even though they were reviewing cost proposals for demonstration projects which, in most cases, had not yet been designed. The officials said that the proposed costs often were not supported in the level of detail that the auditors required, and as a result, the auditors often classified most of the proposed costs as unresolved, unsupported, or questioned. DOE would then have to obtain additional information from the sponsors to clarify the costs.

The two energy centers have developed different alternatives to the preaward audits. PETC still uses DCAA to review sponsors' accounting systems and proposed indirect rates and in-kind contributions at the sponsors' locations. METC uses its own cost/price analysts to analyze available financial information on the sponsors' operations, such as audit reports, information from financial rating organizations, reports from government agencies, and information on the sponsors' accounting systems.

These reviews are the most specific efforts that the energy centers make to review sponsors' accounting systems and indirect rates, but project staff at both energy centers also conduct fact-finding efforts through telephone calls, correspondence, or meetings with project sponsors to

obtain additional information needed in the preaward phase of a project. The fact-finding efforts can also contribute to the energy centers' evaluations of proposed costs, indirect rates, and sponsors' accounting systems.

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## **PETC and METC Also Do Technical Assessments of Proposed Project Costs**

Both PETC and METC do their own technical assessments of sponsors' proposed project costs, although their procedures differ. PETC uses computer models to develop independent estimates of a project's total costs. The models estimate the likely range of a project's total costs on the basis of the estimated costs of key pieces of equipment that are to be used, the project's planned duration, and projected indirect costs. According to PETC officials, if the sponsor's proposed cost is within the range of the independent estimates, PETC considers the proposed cost reasonable. The technical evaluation is generally prepared by the PETC project manager.

In comparison, METC assembles a review team comprised of METC personnel, on-site contractor personnel, and any outside technical experts that may be needed to analyze a project's cost proposal and any additional information that may be obtained. On the basis of its analysis, the review team determines whether the proposed costs are reasonable.

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## **Post-Award Reviews of Incurred Costs and Sponsors' Accounting Systems**

Although PETC and METC rely on DCAA for incurred cost audits as their primary means of ensuring that only allowable costs are actually claimed by project sponsors, the two energy centers monitor incurred costs by reviewing sponsors' cost reports, monthly invoices and supporting documentation for cost-share reimbursement, and progress reports on the work done. They also visit project sites.

PETC has also had an IPA review some sponsors' accounting systems after projects were begun. According to PETC officials, the purpose of these reviews is to ensure that the accounting systems of sponsors who have not had much government experience are properly accumulating and reporting incurred project costs to DOE. As of December 1992, seven of these reviews had been done.

# Comparison of DOE, Sponsor, and Third-Party Financing of the Total Estimated Costs of 33 Active or Completed Projects

Dollars in millions

Project	Total cost	DOE funding		Sponsor funding			Third-party funding		
		Cash	Percent of cost	Cash	In-kind	Percent of cost	Cash	In-kind	Percent of cost
1	\$17.4	\$8.7	50	\$0	\$0.3	2	\$5.9	\$2.4	48
2	19.4	7.6	39	3.4	0	17	8.5	0	44
3	276.8	74.7	27	202.1	0	73	0	0	0
4	0.8	0.4	50	0	0.1	13	0.2	0.1	37
5	54.1	19.9	37	34.2	0	63	0	0	0
6	30.0	15.0	50	0	0	0	15.0	0	50
7	167.5	60.2	36	97.3	0	58	10.0	0	6
8	69.0	34.5	50	34.5	0	50	0	0	0
9	270.7	129.4	48	19.5	0	7	121.8	0	45
10	31.4	15.7	50	3.3	0	11	11.2	1.2	39
11	10.7	5.1	48	2.5	0	24	2.5	0.5	28
12	10.6	4.9	46	0.5	0	5	4.9	0.4	49
13	45.2	13.5	30	31.7	0	70	0	0	0
14	659.9	184.8	28	475.1	0	72	0	0	0
15	10.2	4.8	47	4.8	0	47	0	0.6	6
16	150.5	63.4	42	68.8	0	46	18.2	0.1	12
17	11.7	5.2	44	5.5	0	47	1.0	0	9
18	35.8	17.5	49	9.8	1.5	32	7.0	0	19
19	15.6	7.5	48	5.4	0.6	39	2.0	0	13
20	8.6	4.2	49	3.4	0	39	1.0	0	12
21	6.9	2.0	29	2.3	0	33	0	2.6	38
22	213.7	92.7	43	41.7	0	20	78.9	0.5	37
23	193.4	93.9	49	99.5	0	51	0	0	0
24	9.8	4.7	48	0.5	0	5	3.8	0.8	47
25	9.2	4.6	50	0	0.8	9	1.2	2.6	41
26	143.8	31.3	22	112.5	0	78	0	0	0
27	241.5	120.7	50	120.7	0	50	0	0	0
28	203.0	93.3	46	104.6	1.2	52	0	4.0	2
29	72.6	36.3	50	34.8	1.5	50	0	0	0
30	14.5	7.2	50	0.2	0	1	7.0	0	49
31	17.0	8.5	50	3.9	0	23	0.5	4.1	27
32	66.3	33.1	50	22.8	0	34	10.3	0	16
33	26.5	13.2	50	11.7	0	44	1.5	0	6
<b>Total</b>	<b>\$3,113.9</b>	<b>\$1,218.6</b>	<b>39</b>	<b>\$1,557.2</b>	<b>\$6.0</b>	<b>50</b>	<b>\$312.4</b>	<b>\$19.7</b>	<b>11</b>

(Table notes on next page)

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**Appendix II  
Comparison of DOE, Sponsor, and  
Third-Party Financing of the Total  
Estimated Costs of 88 Active or Completed  
Projects**

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Note: This table shows planned project funding as of the date the project cooperative agreements were signed. Actual project funding may change somewhat after projects are under way. The five funded projects that were withdrawn from the program are not included in the table. Totals may not add due to rounding.

# Scope and Methodology

Our review covered funded projects in the first three rounds of the CCT program. In assessing the adequacy of DOE's preaward review efforts to ensure that sponsors' proposed project costs are reasonable and that sponsors' accounting systems are adequate, we interviewed PETC and METC officials concerning the procedures followed in making such determinations and how the results were documented. Then we reviewed the files and applicable documentation for 16 projects. We selected the projects that involved sponsor and/or third-party in-kind contributions for our analysis. We reviewed DCAA and IPA preaward audit reports, PETC and METC reports and files on the reasonableness and allowability of proposed costs, reports on the adequacy of project sponsors' accounting systems, project correspondence, and other documents on how questioned cost estimates were resolved between DOE and the sponsors. We also reviewed DOE's procedures for determining the reasonableness of sponsors' requests for reimbursement of incurred costs.

To determine whether project costs are audited on a timely basis after projects are begun, we reviewed PETC and METC procedures and documents for requesting incurred cost audits, DOE guidance and financial assistance regulations relating to audits, and various federal reports on obtaining audits. We also discussed audit issues and timeliness concerns with DOE, DCAA, and Office of Management and Budget (OMB) officials. In addition, we obtained data on how long it took to request and obtain audits, and we reviewed copies of all DCAA- and IPA-incurred cost audit reports that had been submitted to DOE on the clean coal projects. We did not conduct any incurred cost audits.

To determine the extent that third-party contributions are used to fund nonfederal participants' share of project costs, we reviewed project files at PETC and METC and talked to knowledgeable DOE officials to identify all third-party cash and in-kind contributions pertaining to specific projects. We also identified all cash and in-kind contributions that were to be provided by project sponsors. We determined that 16 projects involved sponsor and/or third-party in-kind contributions and obtained information on the value of the contributions from the project files.

To determine how third-party contributions affect federal cost-sharing and sponsor financing, we determined how the contributions were treated by DOE for cost-sharing purposes. We also reviewed applicable DOE regulations, OMB circulars, and relevant legislation to determine the basis for cost-sharing the value of in-kind contributions. In addition, we met with DOE and OMB officials to discuss their views on the treatment of



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**in-kind contributions. We also contacted several third parties involved with clean coal projects to obtain their reasons for providing in-kind contributions to projects and to determine whether they were receiving any consideration from the project sponsors in exchange for their contributions.**

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# Related GAO Products

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DOE's Clean Coal Technology Program (GAO/RCED-92-143R, Apr. 3, 1992).

Fossil Fuels: Improvements Needed in DOE's Clean Coal Technology Program (GAO/RCED-92-17, Oct. 30, 1991).

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