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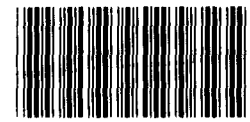
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STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON ENVIRONMENT, ENERGY AND
NATURAL RESOURCES
HOUSE COMMITTEE ON GOVERNMENT OPERATIONS
ON DEPARTMENT OF ENERGY MANAGEMENT
OF THE STRATEGIC PETROLEUM RESERVE

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss the results of our work relating to selected facets of the Department of Energy's (DOE's) management of Strategic Petroleum Reserve (SPR) activities. Specifically, the Subcommittee, by letter dated March 24, 1983, requested that we undertake an examination of DOE's procedures for following up and resolving audit recommendations made by the Defense Contract Audit Agency (DCAA) and other audit organizations. The Subcommittee also requested that we review the status of DOE's efforts to install and operate instrumentation and control systems at several of the SPR storage sites.

Mr. Chairman, before I get into our findings in these two areas, I would like to briefly discuss the context in which this work was undertaken. First, we have had a continuing interest in the SPR since its inception and have issued numerous reports on matters affecting the Reserve. We issue quarterly reports on SPR activities and have several ongoing audits with a heavy commitment of GAO staff. Secondly, as you know, DOE's Inspector General (IG)

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is responsible for all internal audit activities of DOE, including those of SPR activities, and we make every attempt to coordinate our audit activities to minimize duplication of effort. When we started our work on the Subcommittee's request, we were aware that the IG was completing a detailed review of DOE's audit followup procedures. We discussed the work with the IG auditors, reviewed their work papers, and directed our audit effort to complement, to the extent possible, the IG work. We found no audit efforts directed at DOE's management of the instrumentation and control systems activities, however, so we directed more of our audit emphasis towards that area.

Finally, I would like to point out that, as agreed to by the Subcommittee staff, my testimony is based on work that was conducted in a relatively short timeframe and was not subjected to our normal documentation and internal review processes. As such, our observations today should be viewed in that context.

With these points in mind, Mr. Chairman, let me briefly discuss the results of our work. My testimony will cover three general areas. First, I will discuss how DOE manages the SPR and the importance of contractor audits. Second, I will present our observations on DOE's followup procedures for resolving audit recommendations and, thirdly, I will present our observations on DOE's efforts to install instrumentation and control systems at SPR storage sites.

DOE's USE AND OVERSIGHT OF CONTRACTORS AT THE SPR

DOE manages the SPR largely through the use of private contractors. As of December 31, 1982, DOE had awarded contracts valued at about $1.7 billion for architect/engineer services, construction activities, and operations and maintenance of the storage sites. About $1.2 billion of this amount was for 32 cost-reimbursement type contracts.

Contractors are paid in one of two ways. Some use a letter of credit whereby they are authorized to draw on Government funds to meet their expenses and then submit supporting vouchers as evidence of expenditures. Other contractors incur costs and then submit vouchers to DOE for reimbursement.

Both the cost-reimbursable type contracts and use of the letter of credit require close monitoring of contractor expenditures to ensure that only allowable costs are being incurred and that cash withdrawals or payments are appropriate. To help in monitoring responsibilities, DOE has arranged with DCAA to audit both SPR prime contractors' and subcontractors' activities.

While DCAA performs the contract audits, DOE has the responsibility for ensuring that all audit recommendations are followed up and resolved and for obtaining any corrective actions needed by the contractors--just as it does for both IG and GAO audit recommendations. Delays by DOE in following up and resolving weaknesses or deficiencies noted in the audit reports can result in excess costs to the Government or the continuation of system and/or operational deficiencies that result in inefficient and uneconomical contractor performance.

To examine how well DOE is following up on audit recommendations, we reviewed 25 DCAA reports issued during the period January 1981 through January 1983. These 25 reports were selected from a total of 180 reports issued by DCAA during that period on audits of DOE's contractors' accounting and procurement systems and their expenditures. Since DOE relies heavily on its Departmental Audit Report Tracking System (DARTS) to monitor the progress of audit recommendation followup, we also reviewed the types of audit reports included in the System.

DOE'S AUDIT FOLLOWUP PROCEDURES FOR DCAA AUDITS

During our review of DOE's followup procedures on DCAA audit report recommendations, we developed some statistics that we believe may help put DOE's actions in perspective. I would like to go over a few of these at this time.

DCAA audits cover a range of contractor activities--from reviewing bid proposals before contracts are awarded to conducting final close-out audits after a contractor's services are terminated. With few exceptions, DCAA's recommendations on the 25 reports we examined dealt with questionable expenditures made by the contractors and operational and/or system deficiencies.

Two of the 25 reports had no recommendations. The remaining 23 reports had 59 recommendations which can be categorized as follows:

--37 recommendations dealt with operational and/or system deficiencies in the areas of contractors' procurement and accounting systems.

--17 recommendations involved challenges to specific costs incurred by contractors that totaled about $3.2 million.

--5 recommendations were in other categories.

As of May 10, 1983, DOE had closed out 15 of the 23 audit reports containing recommendations. The average time required was about 6 months. In these 15 reports, DCAA had questioned about $1.7 million of contractors' incurred costs and DOE recovered all but about $400,000 of the amount questioned. Most of the uncollected balance was included in one DCAA audit that had questioned about $384,000 in contractor costs. DOE determined, however, that the DCAA-questioned costs related to practices that the contractor had corrected and for which supporting documentation had been provided to DOE. Therefore, there was no basis for DOE to disallow the cost. According to DCAA, audit resolution is DOE's perogative and it does not get involved unless requested.

DOE has not been as successful in closing out the other 8 audit reports included in our review. These audits with open recommendations included questioned costs amounting to an additional $1.5 million. As of May 10, 1983, DOE reported that about $300,000 of this amount had been recovered and that 15 of the 27 recommendations in these reports were still being worked on.

We noted that the audit reports with unresolved recommendations have been open for an average of 371 days--the longest one for nearly 2 years. This particular report was issued by DCAA on June 8, 1981; it questioned about $687,000 in costs and noted 5 system deficiencies. DOE provided documentation that showed about

$85,000 had been recovered and about $285,000 had been settled in favor of the contractor by July 24, 1981. The 5 system deficiencies were reportedly resolved within six months after the report was released. After 22 months, about $317,000 has still not been resolved.

Disparity between audit findings and DOE resolutions raises questions

I would like to make an observation about the wide disparity between some audit findings in DCAA's contract audits and DOE's resolution of these findings.

During our review of DOE's audit recommendation followup procedures, we expected to find that audit recommendations approximated the amounts recovered. However, we noted a wide disparity between the dollar amounts questioned by DCAA and the amounts recovered by DOE in individual audit reports. In one case, for example, DCAA questioned about $124,000 of costs and DOE's contracting officer recovered about $29,000. In another audit, DCAA questioned almost $627,000 and DOE recovered a little over $514,000. In at least two other cases, however, DOE actually recovered more than DCAA auditors questioned. Time did not permit us to review the appropriateness of the DCAA recommendations nor the basis for their resolution by DOE's contracting officers. Based on the number of operational and/or system deficiencies found in the 25 audit reports we reviewed, a possible area that might be looked at to determine why these differences occur is the adequacy of the contractors' accounting systems for supporting their incurred costs.

DOE's use of DARTS

I would like to now turn from our assessment of the 25 reports in our review to the system DOE has set up to track the resolution of audit recommendations.

DARTS was established in DOE's Office of the Controller in late 1979 to provide management a more concise method for tracking progress in resolving audit recommendations. While the primary focus was to track the status of GAO and IG audit reports, it also includes other audits such as those by DCAA. According to DOE officials, however, the SPR audits did not show up in DARTS until mid-1982 due to an apparent oversight and miscommunication.

DOE management ability to track audit recommendation resolutions through DARTS appears to be limited because audit reports of contractors' indirect costs and subcontractors are not included in the tracking system.

DOE officials believe that both kinds of audits should be excluded from DARTS because

--recommendations on indirect cost rates require long periods of time to resolve and can best be handled by local project managers; and

--the resolution of recommendations on audits of subcontractors is the responsibility of prime contractors.

DOE has not taken an active role in seeing that the excluded report recommendations are resolved and had given this responsibility to SPR management. While we found that SPR maintains some documentation on its followup on these audit reports, it was not

complete in all cases. For example, we found the SPR does maintain a central log showing all DCAA audits received and the person responsible for follow-up actions, but the log does not show the number and type of recommendations, nor the status of follow-up activities. While this information should be readily available from the audit files, we found that in some instances the audit files were not up-to-date. For example, audit action plans and memoranda on closing out audits were not always in the files. Consequently, it is difficult to see how satisfactory oversight of these audit report recommendations can be maintained.

SPR officials also informed us that they don't track the resolution of recommendations contained in DCAA's audits of indirect costs done to assist other DCAA offices or of audits of subcontractors. We noted, for example, that no follow-up action has been taken on two such indirect cost audits questioning about $444,000. SPR officials informed us that the assist audits would be made part of larger audits and that resolution of the recommendations would take place at some future time. We noted that one of the audits had been open for 190 days, while the second one had been open 611 days.

SPR officials believe that prime contractors have responsibility for resolving audit findings related to their subcontractors. DOE considers that any questioned costs not resolved by the prime contractor will be questioned when the next audit of the prime contractor's incurred costs is performed by DCAA. In the meantime the SPR does not maintain data on the adequacy of

a prime contractor's resolution of recommendations of subcontractor audits. We noted, for example, that

--SPR officials could not provide the amount of the settlement on a subcontractor audit that questioned about $108,000; and

--a subcontractor audit that questioned about $15,000, and had been open 258 days, had not been settled because the subcontractor objected to the release of the audit to the prime contractor.

DOE's policy of excluding audit recommendations concerning indirect and subcontractor costs from DARTS appears to require some method for tracking these audit reports at the SPR.

PROBLEMS IN DEVELOPING AN AUTOMATED CONTROL SYSTEM FOR SPR STORAGE SITES

I would now like to discuss our findings in the second part of the Subcommittee request--problems that DOE continues to experience, in establishing workable instrumentation and control systems for the two largest of the five SPR storage sites.

These systems were to monitor and control the flow of crude oil, brine, and water into and out of the salt dome caverns. Since 1977, DOE has committed about $24 million in direct costs for 11 separate contracts and an indeterminate percentage of another $79 million for engineering and design work. However, DOE still does not have a centrally controlled instrumentation system at the two largest SPR storage sites.

DOE's management of SPR development

DOE's primary emphasis in the early years of the SPR was to obtain and develop storage sites and fill them with crude oil. Early in the program DOE contracted with an American-German consortium (PB-KBB) to design automated central control systems for the Bryan Mound, West Hackberry, and Bayou Choctaw storage sites.

After DOE accepted the contractor's conceptual design work, it contracted with Instrumentation Control Services (ICS) in 1978 to design, manufacture, and install instrumentation and control systems for Phase I caverns at the three storage sites. The contract was awarded for a fixed price of $5.9 million and required ICS to turn over to DOE three operating control systems within 7 months. DOE made 68 modifications to the contract which increased the cost to $10.5 million and extended the completion date to early 1981, or about 2 years. In 1979, ICS was also awarded a subcontract by DOE's operations and maintenance contractor for the Phase II instrumentation and control system at Bryan Mound. The final cost of this subcontract was about $800,000.

ICS apparently did not have an easy time installing the systems, particularly at Bryan Mound and West Hackberry. DOE had ICS installing the systems at the same time it had a number of other contractors developing the storage caverns and accessory facilities. ICS installed the necessary field monitoring instrumentation and laid connecting cables at the same time that

pumps, piping, roads and other facilities were being installed and built by other contractors and frequently the field instruments and cables were broken or damaged.

ICS never made the systems operational. After alleging that DOE had caused delays by providing faulty specifications and drawings, erroneous information, and delayed access to parts of the storage sites, ICS submitted a claim for $6 million to DOE for both contracts. DOE negotiated a $1.7 million settlement with ICS whereby DOE accepted the non-operational systems on an "as is" basis. This increased the total cost for the two contracts to about $13 million.

In addition to the ICS effort to install the automated systems, DOE, or its prime contractors, awarded additional contracts totaling about $11 million to evaluate, test, repair, and upgrade the existing control room facilities and to expand the instrumentation and control systems to accommodate planned Phase II expansion. Despite DOE efforts to activate the Phase I and II baseline control systems, much of the ICS-installed equipment remains inoperable.

Present instrumentation and control room conditions

In addition to looking at DOE's past problems, we obtained information on the present condition of the instrumentation and control systems at three of the four sites where ICS initially installed equipment.

According to DOE, the Bayou Choctaw site has an instrumentation and control room facility that is about 80-90 percent operational. However, the two major storage sites--Bryan Mound and

West Hackberry--are much less complete. DOE has had auxiliary equipment installed in the control rooms at both sites to provide some degree of control over the leach and fill operations for Phase II caverns. At West Hackberry, for example, 41 of the 49 pumps can be controlled automatically from the control room. At Bryan Mound, however, only 9 of the 45 pumps can be remotely controlled. At both sites, centralized control and monitoring are not possible for much of the field equipment such as meters, valves, and sensing devices. While much of the field instrumentation at both sites has been installed, its condition varies. Cavern temperature, presssure, and flow devices, for example, ranged from totally inoperable to completely operable and ready to be connected to control room equipment.

The control rooms at Bryan Mound and West Hackberry still have the original ICS equipment, most of which is not operable. Part of DOE's current evaluation effort is to assess the cost/benefit of making the equipment operable and incorporating it into an expanded control system. According to DOE's current operations and maintenance contractor, much of the system documentation and computer software is not available, thus making the evaluation difficult. Until that evaluation is finished, the cost of designing and installing a new system cannot be determined. DOE has received at least one contractor study that concluded the repair and expansion of the original equipment at West Hackberry is not cost effective.

Implications of the instrumentation and control problems for the SPR

We also looked at the effect on SPR operations of a non-operating control system and found that DOE has generally been able to meet its leaching and oil fill schedules despite the lack of an automated system.

While the SPR sites can be manually operated it is more labor intensive, and probably inefficient. This raises some concerns, about DOE's ability to successfully sustain a major drawdown of the oil reserves in the volumes that could be needed and about the safety of operating a manual system.

Since leaching and filling the caverns uses the same equipment that would be used to withdraw oil, the implication is that withdrawal capability is unaffected by not having an automated system. However, several factors must be considered. How effective a manually operated system would be during an extended drawdown period is questionable. A major drawdown has the potential for stressing the system, thus increasing the possibility of equipment malfunctions that may not be detected by manual monitoring and observation before major damage occurs. An automated system, operated from a central control room, with continuous monitoring capability over key sensors and detectors, automatic alarms, and pre-set cut-off controls, appears to offer a much greater safety factor than a manual system. Such a system could also minimize equipment damage by early detection of potential problems and automatic shutdowns.

Prospects for completion

The future success of the SPR instrumentation and control systems at Bryan Mound and West Hackberry currently rests on the ability of the present contractors to make the systems operational, on the operations and maintenance contractor's ability to maintain the system once it is in operation, and DOE's establishment of a good quality assurance program. DOE still needs to decide whether to repair, replace, or modify the ICS instrumentation and control systems. Further, DOE needs to determine how the ICS system, or its replacement, will be integrated into the Phase III system being installed under a separate contract.

We are concerned about large variances between (1) initial cost estimates and actual costs experienced and (2) contract awards and DOE's estimated costs for the work. For example, work assigned to one contractor initially was estimated to cost $10,000. Although the scope of work was subsequently expanded and the estimated cost increased to $50,000, its current cost, without an apparent further change in the scope of work, now is estimated at $2 million. DOE estimated the cost of preparing four Phase III cavern sites at Bryan Mound at about $13 million but recently awarded a fixed price contract for $5.7 million for the work.

Because of DOE's prior contracting experience in trying to install operable instrumentation and control systems, we are not certain that DOE thoroughly evaluates contractors' competency to perform. Although DOE can perform a pre-award survey of a contractor's technical and financial ability to carry out the

contract terms, it also counts on the fact that the bidder can be bonded, relying on the bonding company to do any capability assessment. Because of DOE's prior contracting track record in this area, the importance of an automated control system, and the amount of money involved, continued monitoring of DOE's progress in this area would be warranted.

In closing, Mr. Chairman, I would like to summarize the major points discussed today:

With regard to DOE's follow-up actions on audit reports,

--Within our limited sample of 25 audit reports, DOE has closed out 15 reports in an average time of about 6 months and recovered most of the $1.7 million in questioned costs.

--The remaining 8 reports with recommendations have remained open an average of 371 days and only about $300,000 of an additional $1.5 million in questioned costs have been recovered.

--The current policy of excluding indirect and subcontractor audit reports from DARTS appears to require that some method be utilized to track these audit reports at the SPR.

With regard to the instrumentation and control systems,

--DOE has expended millions of dollars for inoperable automated control systems and work is still continuing at additional costs.

--DOE needs to decide what it is going to do with the present non-operating ICS systems at Bryan Mound and West Hackberry.

--DOE's current effort to develop workable instrumentation and control systems for Phase III caverns needs to be closely monitored to ensure that contractor performance complies with contract requirements.

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Mr. Chairman, this concludes my prepared statement, and I will be happy to answer any questions.