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BY THE U.S. GENERAL ACCOUNTING OFFICE
**Report To The Administrator, National
Aeronautics And Space Administration**

Support Service Contracting At Johnson Space Center Needs Strengthening

The National Aeronautics and Space Administration spends about \$175 million annually on support service contracts at Johnson Space Center. GAO tested the way six of these contracts are administered and found



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- a contractor was working without approved work orders,
- Government-furnished equipment was unaccounted for,
- questionable reimbursements occurred for contractor costs,
- contract funds increased before the need was justified,
- contracting officers were unaware of their responsibilities and unfamiliar with contract terms, and
- some contracting officers had a general attitude that small dollar value contracts are not worthy of adequate attention.

GAO believes overreliance on cost-type contracts which require greater administration efforts than fixed-price contracts contributes to these contracting weaknesses and recommends that the National Aeronautics and Space Administration take corrective actions.



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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION

B-200356

The Honorable Robert A. Frosch
Administrator, National Aeronautics
and Space Administration

AGC 0036

Dear Dr. Frosch:

This report describes the lack of adequate cost monitoring by the Johnson Space Center in its contracts for support services from private businesses. The main problem is that the Johnson Space Center's contract administrators are not taking those actions which are necessary to ensure that contractual costs are minimized.

This report contains recommendations to you on pages 21 and 22. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

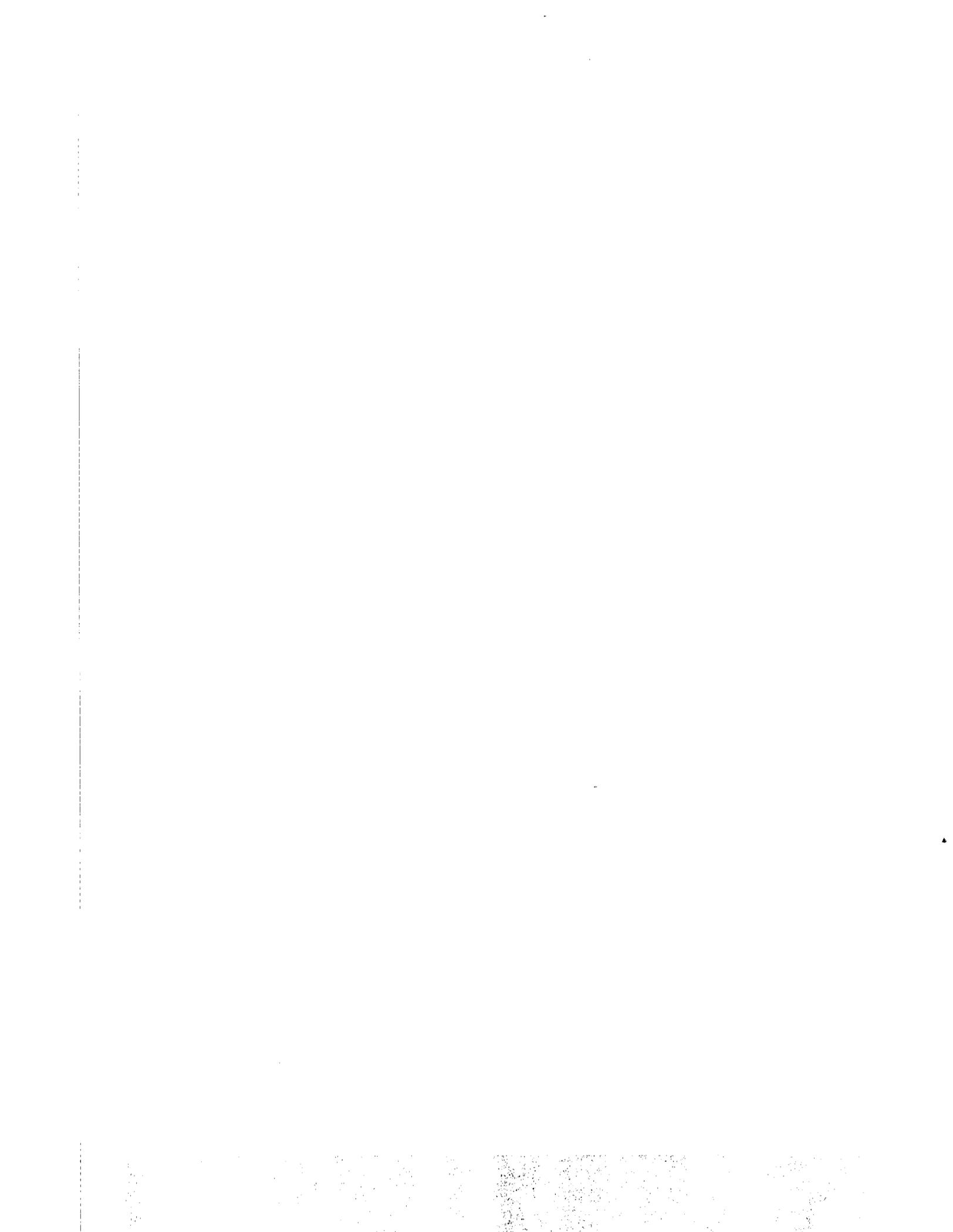
We are sending copies of this report to the Chairmen of the House and Senate Committees on Appropriations, the Senate Committee on Governmental Affairs, and the House Committee on Government Operations; the Director, Office of Management and Budget; and the Director, Johnson Space Center.

We would appreciate being informed of any actions taken or planned on the matters discussed in this report.

Sincerely yours,


W. H. Sheley Jr.
Acting Director

AGC 00966



D I G E S T

Support service contracts for such things as aircraft maintenance, lawn care, engineering, medical, and other services at the National Aeronautics and Space Administration's (NASA's) Johnson Space Center (JSC) in Houston, Texas, need to be more closely monitored.

JSC annually spends about \$175 million on 33 contracts for these support services. As a test of how the procurement system operates, GAO reviewed six contracts and found that:

- Eighty-three percent of the work under work orders written during the first 6 months of one contract had been started and, in some cases, completed without proper authorization from JSC officials. The technical manager for the contract offered no explanation for not completing and signing task orders as required by the contract. (See pp. 5 and 6.)
- On another contract, Government-furnished equipment valued at about \$35,600 was unaccounted for and written off without adequate investigation. Some of the missing items were very expensive--costing as much as \$7,500 each. (See pp. 6 to 9.)
- For 3 years, a contractor who did not have an accounting system was being reimbursed for incurred costs under a cost-type contract. (See pp. 11 and 12.) On two other contracts, additional money was made available before a need for the funds had been established. (See p. 12.)
- JSC spends about \$1 million annually for health services from a private firm. A U.S. Public Health Service hospital opened near

JSC in 1978, but no consideration had been given to determining whether the hospital could provide any or all of the health services required by JSC. (See pp. 12 and 13.)

GAO believes the basic reasons for inadequate contract administration include (1) an unawareness on the part of some contracting officers of their full range of responsibilities (see pp. 13 to 15), (2) some contracting officers had a general attitude that small dollar value contracts are not worthy of attention (see pp. 15 and 16), and (3) resources for administering these cost-type contracts, which generally require more administrative effort than fixed-price contracts, appeared inadequate. (See p. 16 and ch. 3.)

RECOMMENDATIONS

GAO recommends that the NASA Administrator see to it that the Director, JSC:

- Directs that work orders be authorized before contractors actually perform and not after the fact.
- Makes a physical inventory of Government-furnished equipment in the possession of contractors and not write off equipment without appropriate investigation.
- Recovers any inappropriate payments made to contractors.
- Avoids contracting with contractors who do not adequately support their claims for reimbursement under cost-type contracts.
- Ceases funding on contracts before needs have been established.
- Determines the feasibility of providing all, or a portion of, medical service needs at the nearby Public Health Service hospital facilities rather than continuing contractor-operated facilities.

Similar problems were reported earlier by GAO at the Goddard Space Flight Center. Therefore, GAO also recommends that the NASA Administrator have the Inspector General determine whether these problems exist at other NASA installations. GAO also recommends changing NASA procurement regulations and training aids to

- reaffirm and clearly define the full range of contracting officer responsibilities, including contract administration functions,
- dispel the notion that small dollar value contracts do not warrant effective administration, and
- emphasize the need for greater use of fixed-price contracts, especially in situations where essentially the same services are procured year after year.

JSC COMMENTS

JSC officials, in orally responding to the findings of this report, said that the majority of matters discussed dealt with minority contractors sponsored by the Small Business Administration and that JSC normally experiences difficulties in administering contracts with these firms. They said that the Small Business Administration-sponsored minority contractors generally have problems with their accounting systems which are the bases for supporting contract cost vouchers, and that since these small contractors are part of a Government social program to help the contractors become open-market competitors, JSC exercises considerable patience in dealing with them. The officials also said that one of the reasons that support service contracts are awarded on a cost-type basis is because the contractors may not have adequate estimating systems for fixed-price contracts and some experience financial difficulties if forced to operate under fixed-price contracts.

GAO recognizes that agencies having the Small Business Administration-sponsored contractors may encounter some added administrative difficulties. However, the major problems noted in this review were not related primarily to the fact that the Small Business Administration contracts were involved, but to JSC's general lack of contract monitoring.

JSC officials said their oral comments are preliminary until they have an opportunity to review a written report and to confer with the other Government agencies having responsibilities for some of the matters discussed in this report.

C o n t e n t s

| | | <u>Page</u> |
|----------|--|-------------|
| DIGEST | | 1 |
| CHAPTER | | |
| 1 | INTRODUCTION | 1 |
| | Contracting out policy | 1 |
| | Contracting out is a way of life at NASA's Johnson Space Center | 1 |
| | Objectives, scope, and methodology | 3 |
| 2 | TESTING TRANSACTIONS REVEAL PROBLEMS | 5 |
| | Contractor working without approved work orders | 5 |
| | Unaccounted for Government-furnished equipment not thoroughly investi- gated | 6 |
| | Questionable reimbursements for contractor costs | 9 |
| | Contractor without adequate records was reimbursed for 3 years | 11 |
| | Contract funds increased before the need was justified | 12 |
| | Potential contract cost savings had not been studied | 12 |
| | Reasons for inadequate cost monitor- ing | 13 |
| 3 | BASES FOR USING TIME-CONSUMING, COST-TYPE CONTRACTS NOT JUSTIFIED | 17 |
| | No real effort to define require- ments | 17 |
| | No NASA headquarters preference | 19 |
| 4 | CONCLUSIONS, RECOMMENDATIONS, AND AGENCY COMMENTS | 21 |
| | Conclusions | 21 |
| | Recommendations | 21 |
| | JSC comments and our response | 22 |
| APPENDIX | | |
| I | List of JSC support service contracts, as of September 30, 1979 | 24 |

ABBREVIATIONS

CPAF cost-plus-award-fee
DCAA Defense Contract Audit Agency
DCAS Defense Contract Administrative Services
JSC Johnson Space Center
NASA National Aeronautics and Space Administration
SBA Small Business Administration

CHAPTER 1

INTRODUCTION

CONTRACTING OUT POLICY

The National Aeronautics and Space Administration (NASA) and other Federal agencies follow the policy set forth in the Office of Management and Budget Circular A-76, dated March 29, 1979, regarding Government acquisition of commercial or industrial products and services. The policy encourages Federal agencies to rely on, rather than compete with, private enterprise in acquiring goods and services. The circular points out, however, that certain functions are inherently governmental and must be performed by civil service personnel. The head of each agency determines the proper balance between in-house performance and contracting out. The circular emphasizes the importance of economy by stating:

"When private performance is feasible and no overriding factors require in-house performance, the American people deserve and expect the most economical performance * * *."

CONTRACTING OUT IS A WAY OF LIFE AT NASA'S JOHNSON SPACE CENTER

The Johnson Space Center (JSC) in Houston, Texas (see fig. 1), relies heavily on private business firms to fulfill its mission requirements which include such things as

- developing and providing spacecraft and related equipment,
- training astronaut crews,
- devising and refining spaceflight techniques,
- advancing lunar and space science,
- advancing Earth resources technology and application,
and
- engineering, developing, and operating capability to support the above projects.



2

Photo Courtesy of NASA

JSC AERIAL VIEW

Figure 1

JSC employs some 3,500 civil service people and operates with an approximate \$1.3 billion annual budget. JSC pays some \$1.2 billion annually to private firms under a variety of contractual arrangements, which involve about 6,400 contractor employees on or near the JSC installation. These private businesses are involved in many activities, ranging from major development programs, such as the space shuttle, to general day-to-day functions, such as aircraft maintenance, guard services, janitorial, engineering support, logistics and warehousing, medical services, and grounds maintenance.

Our study focused on the adequacy of the JSC administration of support service contracts. According to NASA, 1/ a support service contract is one where (1) the contractor renders a service rather than a definite end product and (2) the services are of a continuing nature, rendered onsite, and contracted for in terms of a level-of-effort basis (usually worker years).

OBJECTIVES, SCOPE, AND METHODOLOGY

To determine how well JSC personnel administered support service contracts, we

- reviewed NASA and JSC policies and procedures involving support service contracting and contractors' supporting documentation for reports submitted to JSC contracting officials,
- examined 6 of the 33 JCS support service contracts in detail (see app. I), selecting those contracts based on our prior experience and problems noted in our reviews at other NASA centers and military installations,
- examined JSC reports and analyses on contractors' cost and technical performance,
- sampled inventories of Government-furnished equipment assigned to onsite contractors, and
- discussed our findings with NASA procurement and other officials, contractor personnel, Defense Contract Audit Agency (DCAA), Defense Contract Administration

1/Budget Administration Handbook 7400.1B, June 8, 1978, NASA, Washington, D.C., p. 25-5.

Services (DCAS), and Small Business Administration
(SBA) personnel who are involved in JSC support service
contracting.

Our work was completed during the spring of 1980.

CHAPTER 2

TESTING TRANSACTIONS REVEAL PROBLEMS

To test how well the JSC contracting personnel administered support service contracts, we selected 6 of the 33 contracts (see app. I) for detailed examination. The 6 selected contracts were administered by 5 JSC contracting officers who, in total, were assigned responsibility for 31 of the 33 contracts. Thus, by examining individual transactions assigned to these five contracting officers, we could gain a good understanding of the practices and procedures actually used in administering the bulk of JSC's support service contracts. The six selected contracts are similar to those we reported on at NASA's Goddard Space Flight Center (PSAD-79-103, Sept. 12, 1979).

We found weaknesses in JSC contracting procedures that permitted (1) a contractor working without approved work orders, (2) unaccounted for Government-furnished equipment, (3) questionable reimbursements for contractor costs, (4) a contractor reimbursed for expenditures not adequately supported, (5) contract funds being increased before the need was justified, (6) potential contract cost savings not studied, and (7) contracting officers to remain unaware of their responsibilities and unfamiliar with contract terms. We also noted a general attitude by some contracting officers that small dollar value contracts were not worthy of their attention.

CONTRACTOR WORKING WITHOUT APPROVED WORK ORDERS

JSC technical personnel were not properly preparing task orders assigned to an equipment and building painting contractor. The contract, valued at about \$460,000 annually, required JSC technical personnel to issue task orders to the contractor specifying what is to be painted and how long the job should take. The task order form also has provision for the JSC technical manager's signature authorizing the contractor to begin work.

We reviewed task orders for the current contract year (Aug. 18, 1979, to Aug. 17, 1980) and found that 33 of the task orders, or 83 percent, covering work through February 5, 1980, were not signed by the JSC technical manager. Three other orders were not available for our review. Moreover, some orders were written without job time estimates. Therefore, the contractor project manager was virtually free to determine the time and what the job would cost. In fact,

some orders contained the contractor project manager's signature indicating that the work had been completed using a specific number of labor hours, even though no JSC official had signed the task orders. Also, some task orders designated the building where painting was to take place, but did not always state what specific painting was needed.

We asked the JSC technical manager why he did not complete and sign the authorizing task orders as required by the contract. He offered no explanation.

A specific example of a task order which demonstrates JSC's lack of control over this painting contractor is the task order for painting large rollup doors. These doors are similar to garage doors (see fig. 2) and were to be painted during the current contract year. First, the task order specified neither the buildings nor the doors to be painted. Secondly, the task order included no estimate of the time needed to paint the doors. As of August 17, 1979, the contractor had charged about 5,600 hours, or nearly \$86,000, for this work even though only 800 hours, or \$12,000, was specified in the contract. The JSC technical manager and the contractor project manager explained that the additional 4,800 hours were needed because a JSC energy conservation program called for repainting all blue doors with a coat of white paint. In response to our questions, they were unable to tell us when the program was started, who initiated and approved it, how many doors were involved, or who provided additional funds. However, when all work under the task order was completed on March 25, 1980, over 10,300 hours had been charged to the order since August 18, 1978.

UNACCOUNTED FOR GOVERNMENT-FURNISHED EQUIPMENT NOT THOROUGHLY INVESTIGATED

Government officials had not thoroughly investigated unaccounted for Government-furnished equipment assigned to a JSC aircraft maintenance contractor. JSC awarded a contract, valued at about \$5 million annually, and assigned about 25,000 items of Government-furnished equipment, valued at about \$7 million, to a contractor that maintains and modifies JSC aircraft. The contractor is responsible for properly controlling Government-furnished equipment, including conducting annual inventories.

For 3 years, the contractor reported that its inventory of Government-furnished equipment contained fewer of some items than records indicated. It also reported that the inventory contained more of other items than the inventory



Photo Courtesy of NASA

CIRCLES AND ARROWS SHOW THE TYPE OF LARGE ROLL-UP DOORS PAINTED.

Figure 2

records indicated should be on hand. In 1977, for example, the contractor reported that its inventory was missing items having a total value of about \$35,600 and had overages on other items valued at about \$11,600. The contractor submitted an inventory voucher to DCAS 1/ requesting that the inventory loss of about \$35,600 be approved, since the total value of the loss was small compared to the total inventory and because no theft was indicated by its investigation. DCAS determined that the loss was within reason and recommended to JSC that the contractor's inventory adjustment voucher be approved. JSC accepted the DCAS recommendation. According to JSC contracting officials, they accepted the DCAS recommendation on the basis that DCAS personnel are expert property administrators.

We reviewed the contractor's voucher and noted that some of the missing as well as some of the excess items were very expensive, valued at \$500 to \$7,500 each. For example, the missing items included such things as a \$7,488 main fuel control unit, a \$3,312 receiver/transmitter, and a \$3,900 visual observation rules receiver. The excess items included such things as a \$3,960 mechanical tuner and a \$1,654 temperature indicator.

In discussing these inventory shortages with JSC contracting officials, DCAS, and the contractor, Government officials accepted the contractor's explanation without adequately investigating the circumstances surrounding high dollar value items. According to a DCAS official, his office does not have enough auditors to followup on contractor-reported inventory overages and shortages to verify their accuracy and that no directives or methods exist for following up on contractor-reported overages and shortages. Also, although DCAS may perform a very limited inventory sample to assess the validity of the contractors' reports, DCAS usually weighs the contractor's explanation and decides whether JSC should accept the losses. He also said that DCAS accepted this particular contractor's request for inventory adjustment and recommended that the JSC contracting officer accept the losses after DCAS had discussed

1/Under a NASA/Defense agreement, DCAS assists JSC in managing Government-furnished equipment assigned to contractors. It analyzes contractors' internal controls related to acquiring, maintaining, storing, keeping records on and disposing of Government-furnished equipment, and analyzes property accountability at the time the contracts are completed.

the inventory shortage with contractor personnel, conducted a small sample of high dollar value items, and considered the small value of the shortages compared to the total inventory value as insignificant.

This aircraft maintenance contractor reported similar inventory losses in 1978 and 1979 of \$4,500 and \$82,000, respectively. The JSC contracting officer and DCAS accepted the contractor's explanation for items missing on the basis that the total value of the losses compared to the total inventory value was within reason and that theft was not likely because the missing items do not appeal to the average individual.

We agree with the DCAS and JSC explanation that the total value of the missing items is insignificant, about 1 percent or less each year, when compared to the total inventory value. However, in our opinion, it is irrelevant whether the missing items appeal to the average person. Any loss of Government property, especially that having a value of several thousand dollars, should be investigated on a case-by-case basis, not by sample. The contractor's 1979 inventory record shows that 16 items, having values ranging from \$1,000 to \$7,500, were not accounted for. For example, the \$7,500 item (a main fuel control) was written off in 1977 and again in 1979.

A February 5, 1980, DCAS letter to the contracting officer acknowledges that the contractor has shown no improvement and that its sampling of the contractor's inventory has proven inconclusive as to the causes of the discrepancies. Also, while these items may not appeal to the average person, they may appeal to persons who wish to convert them into cash by selling them to persons or firms who could use them or who may trade them for more appealing merchandise. Therefore, we believe that JSC should make sure that each loss of a high dollar value item is thoroughly investigated and disallowed as a contract cost if negligence or other unacceptable reason is the cause.

QUESTIONABLE REIMBURSEMENTS FOR CONTRACTOR COSTS

Based on our review of the aircraft maintenance contract covering the 3-year period ended April 30, 1980, and the engineering support service contract for the 3-year period, JSC unnecessarily paid about \$93,000 for contractor cost claims. JSC paid about \$35,000 to the aircraft maintenance contractor for consultant legal fees to

handle labor negotiations. During a financial audit, DCAA 1/ questioned the allowability of these legal costs (\$16,118 in the first contract year and \$18,889 in the second) on the basis that contract legal costs would be handled by the corporation's lawyers and included in the corporation's general and administrative expense which is partly funded by JSC. The contractor argued that JSC should pay for the consultant fees based on the need for consultants to handle specific labor-management issues related to the JSC aircraft maintenance contract.

In rebuttal of the contractor's argument, DCAA stated that the contractor's corporate headquarters does use about 20 legal staff members with specific areas of expertise, including labor relations. According to DCAA, corporate legal assistance was furnished in December 1978 to the corporation's Houston office in negotiating a union contract with its employees under another NASA contract. The contracting officer also disagreed with the contractor. He said that:

"The Government was misled by [the contractor] during the competition phase of the procurement leading to this contract. NASA was specifically informed by [the contractor], that the capabilities of the contractor's corporate offices would support this contract in that such capabilities include a corporate legal staff which possessed expertise in the field of labor law and labor relations; and this expertise would be available when needed under the contract."

At his superior's direction, however, the contracting officer reluctantly allowed the legal costs on the basis that paying the fees would be less expensive than litigation and because the costs were immaterial and did not make the total actual contract cost exceed projected costs.

Insufficient cost monitoring was also evidenced by JSC's continued reimbursement of an engineering support contractor for overhead expenses in excess of expenses actually incurred during 1979. We met with the contractor to review support for vouchers and were told that the contractor was

1/Under a NASA/Defense agreement, DCAA assists JSC by auditing contract cost and pricing data, reviewing accounting systems, and approving vouchers for provisional payment pending audit.

billing the Government for reimbursement of overhead expenses at a 33-percent provisional rate, stipulated in the contract even though its calculations showed that the rate actually incurred was about 28 percent. The overbilling amounted to about \$40,000 for 1979. Before we brought this matter to his attention, the contracting officer was unaware that the contractor was overbilling the Government during 1979. Subsequently, he has asked the contractor for full reimbursement of the funds. A February 28, 1980, DCAA audit report covering the contractor's expenses for 1978 also revealed that the contractor had overbilled the Government about \$18,000 during the 1978 contract year.

In our opinion, these type problems could be minimized if JSC contract administrators conducted periodic inquiries, such as the one we made. Periodic tests could reduce the significance of overbillings pending detailed audits by DCAA which may audit these small contracts only once every 2 or 3 years. JSC officials have indicated that the contractor's records will be reviewed quarterly because of the overbilling problem.

CONTRACTOR WITHOUT ADEQUATE RECORDS
WAS REIMBURSED FOR 3 YEARS

Because of inadequate cost monitoring on the same engineering support contract, discussed above, JSC is also unable to determine how much of the contractor's claimed costs should be allowed under the contract. In 1978, JSC was notified by DCAA that contract costs for the years 1975-77 could not be audited because the contractor did not have an adequate accounting system. DCAA reported that the contractor was not following appropriate accounting practices and procedures, even though it had been given more than adequate time to definitize an acceptable accounting system. Also, according to DCAA, the contractor had "a very lax approach towards its accounting practices and controls on the assumption that it will be handled by SBA or even DCAA since it is a 8(a) small business concern." 1/

1/JSC participated in SBA's program whereby JSC sets aside a portion of the work to be contracted for small businesses to compete for contract award. It also participates in an SBA program whereby JSC awards subcontracts to disadvantaged minority firms, certified as competent by SBA. SBA, as sponsor for the minority firms, is the prime contractor, although the small firms are responsible for meeting contractual requirements.

DCAA concluded that even though the contractor hired accountants in the past, the accountants were not allowed to control the charging of costs necessary to maintain the integrity of the accounting system. As a result, the contractor had not reconstructed its records for those early years. Yet, JSC reimbursed the contractor for costs claimed during the 3-year period.

When questioned about the contractor's accounting problem, the JSC contracting officer said that he was not responsible for continuously monitoring the contract. However, JSC procurement management officials disagree. We also disagree and believe that adequate monitoring of cost-type contracts would have quickly identified this problem, and the Government would not be in the position it is today of being unable to establish the allowability of 3 years of contractual costs. Also, JSC administrators should adhere to NASA procurement regulations which state, among other things, that the cost responsibility of the contractor and the adequacy of the contractor's cost accounting system should be considered in determining the type of contract to be used.

CONTRACT FUNDS INCREASED BEFORE
THE NEED WAS JUSTIFIED

Another problem related to fund control beyond the responsibilities of day-to-day contract administrators was JSC management's allocation of additional funds to two contracts without having predetermined specific requirements for the money. According to a JSC official monitoring the painting contract, \$20,000 was added because JSC had extra money and knew that the contract could use more money for additional painting. A monitor on another contract said that \$55,000 was added to his contract, even though no specific work requirements had been identified at that time. Also, additional funds for the contract came from money NASA was distributing to contracts with small business and minority firms. In our opinion, allocating funds before determining requirements is imprudent and can encourage contractors with cost reimbursement contracts to spend excessively in anticipation of similar future actions.

POTENTIAL CONTRACT COST SAVINGS
HAD NOT BEEN STUDIED

We reviewed a JSC medical service contract and found that no consideration had been given to determining whether any or all of these services could be obtained from a nearby Government medical facility. JSC annually spends about \$1 million for occupational medicine and environmental health

services from a private firm. We learned that a U.S. Public Health Service hospital opened near JSC in 1978, and we asked JSC contract officials whether the Public Health Service hospital could provide the services being acquired under contract with the private firm. According to a JSC official, JSC contacted the Public Health Service about 14 years ago when contracting for these services started. He said the Public Health Service was unable to handle the JSC case load at that time and that he was not aware of any recent JSC interaction with the Public Health Service. Also, he has often wondered whether the hospital could handle some of JSC's medical activities.

We also questioned the Chief of JSC Medical Services Division (which requests contracting for medical services) about the feasibility of using the Public Health Service. His response was that the hospital could not handle JSC's complex and heavy activity. After our recent inquiries, however, JSC formally asked the Public Health Service officials to consider submitting a proposal to provide medical services, now handled by the private contractor. In our opinion, such action may be well worthwhile if existing Government facilities can provide similar services at substantially reduced costs.

REASONS FOR INADEQUATE COST MONITORING

In discussing the contracts covered by this review with NASA, JSC, DCAA, SBA, and contractor personnel, we noted several reasons why contract cost monitoring was not properly carried out. The reasons are (1) contracting officials' unawareness of their responsibilities and unfamiliarity with contractual terms, (2) attitudes among some contracting officials that small dollar value contracts are not worthy of close attention, (3) insufficient staff resources assigned to administering the contracts, and (4) excessive use of cost-type contracts. The first three reasons are discussed in this chapter. The type of contracts JSC uses for acquiring support services are discussed in chapter 3.

Some contracting officials are unaware of their responsibilities

In discussions with JSC contracting officials responsible for the contracts we reviewed, we learned that some contracting officials are not fully aware of their monitoring responsibilities. Some contracting officers and their assistants said that cost monitoring was not their responsibility, but that of DCAA or others. Their view, however, contradicts

that of JSC procurement management officials who said that contracting officers are responsible for cost monitoring. Moreover, NASA procurement regulations state that contracting officers were ultimately responsible for the contract, including bringing together all legal, technical, and other assistance to ensure that the Government's interest is adequately protected.

JSC, as well as NASA procurement regulations, may be contributing to the contracting officers' misunderstanding about their role in cost monitoring. We found no JSC document which sets forth the contracting officers' specific responsibilities after they have delegated certain functions to others. Although the regulations hold contracting officers ultimately responsible, they allow contracting officers to delegate some functions and require them to keep others without giving clear guidance on how contracting officers should carry out their oversight responsibilities. Contracting officers may delegate such functions as negotiating supplemental or termination settlements and issuing work requests, which do not obligate funds. They must delegate some functions, such as contract audit. However, they may not delegate others, such as issuing contract disputes decisions, terminating contracts, issuing orders to change contract requirements, and making contract payments.

Some contracting officials' unfamiliarity with terms and conditions of their contracts was clear evidence that contracting officers were not devoting adequate time to cost monitoring. For example, neither the contracting officer nor his assistants on one contract could explain to us the meaning of the contract provision dealing with the allocation of general and administrative expenses. DCAA was also unaware of the provision's meaning, even though the same provision had been in each JSC contract for the service over the past 14 years. Therefore, we had to obtain answers to our questions from contractor personnel.

A contracting officer on another contract was unaware that DCAA only provisionally approves contract vouchers pending the results of later audit. He was also unaware that the contractor was required to submit monthly progress reports which are to keep him informed of the current status of contract performance.

A contracting officer on another contract was unfamiliar with DCAA and with monthly financial reports and certified payroll reports he was receiving from the contractor. At our request, the specialist assisting on the contract was eventually able to locate certified payroll reports

covering 1 year, but it was obvious that these officials had not used the reports to analyze the contractor's cost performance.

Contracting officials' understanding of their monitoring responsibilities on cost-plus-award-fee (CPAF) contracts was much better than on others, but officials were relying too heavily on DCAA audit reports. On two of the CPAF contracts we reviewed, JSC contracting officials were using DCAA's yearly cost-verification audits to help them in assessing the contractor's cost performance to determine award fees to be paid to contractors. DCAA stated, however, that the yearly cost audits are little more than verification that costs on the voucher are listed on the contractor's books, not that the costs are reasonable or allowable. DCAA audits of reasonableness and allowability, on the other hand, only occur once in every 2 or 3 years for small contracts. Nevertheless, one contract specialist was relying on these yearly verification reports for his assessments, even though they were of limited value and gave no indication of the allowability of contractor costs in terms of reasonableness and adherence to cost accounting standards. Also, the specialist was unaware of the meaning of the verification audits. He made no independent cost analysis of the contractor reports to support his recommendations regarding the contractor's award fee. We question the validity of award-fee decisions in which contract administrators decide on award-fee amounts without benefit of DCAA audits or independent cost analyses.

Attitude that small
dollar value contracts
are not worthy of attention

We noted a general attitude among some JSC contracting officials that contracts having relatively small dollar values, about \$500,000 or less annually, were not worthy of close monitoring. Referring to one of his contracts, the contracting officer said that the contract was a "stepchild." The contracting officer on another contract said, regarding contracts performed by SBA contractors, the regulations are not used because they do not apply. These officials were candidly admitting that the controls and safeguards, usually associated with contract administration, do not apply for these contracts.

The contractors doing business with JSC through SBA's small business and minority programs are to receive special consideration and help by the Government administrators. But we found nothing in NASA's procurement regulations or JSC's directives that condones relaxed monitoring controls

for these small businesses. In fact, a goal of the SBA program for minority firm contractors is to provide small businesses with assistance so as to help them become self-sufficient, open-market competitors. Therefore, more monitoring should be required not only for protecting the Government's interest, but for ensuring that these special assistance programs are successful.

Insufficient staff resources

In our opinion, adequate cost monitoring was also hindered by insufficient staff resources assigned to this task. Six contracting officers handle all 33 JSC support service contracts plus other nonsupport service contracts and grants. The 5 contracting officers we contacted handled all but 2 of the 33 support service contracts. One such contracting officer was responsible for a total of 113 contracts and grants.

Although JSC contracting officers are assisted by contract specialists, DCAA and DCAS personnel, and technicians, the assistants have other duties which consume much of their time. DCAA and DCAS personnel not only assist JSC, but are responsible for some Department of Energy and Defense contracts as well. Therefore, they must give low priority to small JSC contracts. For example, DCAA may not audit a small contract for 2 or 3 years. JSC technicians, who monitor contractor's technical performance, perform as division and section chiefs, in addition to their roles as technical monitors and managers.

We believe that one of the five contracting officers contacted had developed an excellent system for closely monitoring his contracts. But he could not do much of the planned work because of the limited time the few people assisting him could spend on contract monitoring. Their time was limited because a large share was spent making preparations for awarding new contracts or negotiating extensions of existing ones.

In our opinion, JSC should either assign people from other areas to cost monitoring or significantly reduce its use of cost-type contracts, which require more monitoring than fixed-price-type contracts.

CHAPTER 3

BASES FOR USING TIME-CONSUMING, COST-TYPE CONTRACTS NOT JUSTIFIED

At the time we completed our review, JSC was obtaining support services by using only cost-type contracts which require more JSC monitoring of contractors' activities than would fixed-price contracts. Cost-type contracts obligate JSC to reimburse contractors for all allowable costs incurred while performing the service. Therefore, these contracts require that JSC personnel adequately monitor contractors' cost and technical performance to ensure that contract work is carried out efficiently and economically. Fixed-price contracts, on the other hand, have a ceiling price which is firm or that can be adjusted based on such factors as changes in area labor rates or material costs. The ceiling price for the service to be obtained requires the contractors to monitor and control costs because any portion of the payment not used to recover the costs of the service is profit to them. Therefore, if JSC were to make greater use of fixed-price contracts, it would need less time for cost monitoring.

According to JSC officials, as well as the contract files we reviewed, however, cost-type contracts are used because JSC support service requirements, such as janitorial, guard services, and painting, cannot be adequately defined in advance so that fixed-price contracts could be used. The officials said that CPAF-type cost contracts are used because NASA headquarters prefers this type of contract. They also said that this type of contract encourages contractors to perform better than on other types of contracts because it involves more Government/contractor interaction to evaluate the contractor's performance for determining the amount of award fee to be granted. However, we found no substantial bases for JSC's stated reasons for such heavy reliance on cost-type contracts.

NO REAL EFFORT TO DEFINE REQUIREMENTS

We found no convincing evidence that JSC has attempted to define support service requirements to determine whether fixed-price contracts could be used.

First, JSC is not adequately following a NASA procurement regulation requirement that each contract file

include documentation to show why the particular contract type was used. We found no substantive evidence in the contract files reviewed that any type of cost benefit or other thorough evaluation was used to determine the most appropriate type of contract. Instead, the contract files contained a standard format memorandum which merely states that the requirements cannot be adequately defined.

According to a JSC procurement official, the wording used in JSC contracts termed "determination and findings," which states the justification for not using fixed-price instruments, is a standard statement not supported by formal cost or price analysis. NASA procurement regulations state that descriptions of work in all determination and findings must give supporting facts to demonstrate

- why it is impractical to secure the needed supplies or services without using the type of contract planned and

- why the planned type of contract is likely to be less costly than other types.

NASA regulations also list three statements, any one of which is considered adequate justification for using cost reimbursement rather than fixed-price arrangements, as follows:

- It is impracticable to secure services of this kind or quality required without the use of the proposed type of contract.

- The use of the proposed type of contract is likely to be less costly than other methods.

- It is impracticable to secure services of the kind or quality required without the use of the proposed type of contract and the use of such type contract is likely to be less costly than any other method.

As justification for using cost-type contracts, the contract files reiterated these statements verbatim with no supporting documentation.

Second, JSC had not acted on a September 1972 consultant report to JSC which mentioned two JSC support service contracts which should be studied for establishing technical specifications. According to the Chief of JSC's Institutional Division, since the 1972 consultant study, no further study was made to examine the feasibility of using fixed-price

contracts for support services. As a result, no cost-type contracts have been converted to fixed price.

NO NASA HEADQUARTERS PREFERENCE

A NASA procurement official in Washington, D.C., did not support JSC officials' position that headquarters prefers the CPAF contract type. The official said that no NASA documentation expresses any preference for CPAF contracts. He also said, however, that over the years, headquarters has frequently recommended CPAF contracts when field centers submitted contract proposals to Washington for approval, and that this undoubtedly is how JSC has come to interpret CPAF as the preferred contracting method. We also believe this to be the case because JSC officials could not give us reference to any policy document, yet they strongly believed they were doing what headquarters wanted.

Questionable benefits from CPAF contracts

We recognize that administering CPAF contracts inherently involves more Government/contractor interaction to evaluate performance as a basis for calculating the amount of award fee to be granted. However, we question the validity of award-fee evaluations in cases where little or no objective performance evaluation criteria is used. In a 1971 report on JSC administration of an aircraft maintenance CPAF contract, 1/ we recommended that JSC develop objective criteria to be used by JSC officials in rating contractors' performance.

Although NASA's reply to our report stated that objective criteria could not be easily developed, we found no documented evidence that any attempt was made to define requirements. JSC officials administering the current CPAF aircraft maintenance contract have some criteria for performance ratings, but the criteria are not part of the official contract.

Also, CPAF contracts require additional administrative cost due to the award fee evaluation procedures. A 1977 NASA procurement management survey report stated that JSC management had attempted to identify the added cost of CPAF contract administration. The study concluded that each small dollar value procurement (less than \$1.5 million per

1/"Administration of Cost-Plus-Award-Fee-Type Contract For Aircraft Maintenance Support Service" (B-133394, Apr. 14, 1971).

year) should be analyzed periodically to determine the desirability of changing to or from the CPAF method. Nevertheless, we found nothing that indicated that JSC had performed such analysis.

CHAPTER 4

CONCLUSIONS, RECOMMENDATIONS, AND

AGENCY COMMENTS

CONCLUSIONS

JSC contracting officials were not adequately administering some of the support service contracts we reviewed. JSC could strengthen its administration of support service contracts if (1) contractors are not permitted to work without proper authorization by Government officials, (2) missing Government-furnished equipment assigned to contractors is adequately investigated and accounted for, (3) contractors' cost claims are frequently and carefully analyzed and verified, (4) cost-type contracts are awarded only to contractors that maintain adequate financial records, and (5) justification of the need of additional funds is required before adding funds to contracts. Also, opportunities for cost savings through greater use of fixed-price contracts should be sought out and used.

Moreover, JSC will be able to better monitor support service contracts if contracting officials are aware of their full range of contract administration responsibilities and have the attitude that small dollar value contracts are worthy of adequate attention. Also, adequate monitoring can be enhanced if JSC reassigns enough staff resources from other areas to do this task or reduces the number of cost-type contracts.

RECOMMENDATIONS

To minimize these problems, we recommend that the NASA Administrator see to it that the Director, JSC:

- Directs that work orders must be authorized before contractors actually perform work and not after the fact.
- Makes a physical inventory of Government-furnished equipment in the possession of contractors and not write off equipment without appropriate investigation.
- Recovers any inappropriate payments made to contractors.

- Avoids contracting with contractors who do not adequately support their claims for reimbursement under cost-type contracts.
- Ceases funding contracts before needs have been established.
- Determines the feasibility of providing all, or a portion of, medical service needs at the nearby Public Health Service hospital facilities rather than continuing contractor-operated facilities.

Similar problems were reported earlier by us at the Goddard Space Flight Center. Therefore, we also recommend that the NASA Administrator have the Inspector General determine whether these problems exist at other NASA installations. We also recommend changing NASA procurement regulations and training aids to

- reaffirm and clearly define the full range of contracting officer responsibilities, including contract administration functions,
- dispel the notion that small dollar value contracts do not warrant effective administration, and
- emphasize the need for greater use of fixed-price contracts, especially in situations where essentially the same services are procured year after year.

JSC COMMENTS
AND OUR RESPONSE

JSC officials, in orally responding to the findings of this report, said that the majority of matters discussed dealt with minority business contracts sponsored by SBA and that JSC normally experiences difficulties in administering contracts with these firms. They said SBA-sponsored minority contractors generally have problems with their accounting systems which are the bases for supporting contract cost vouchers, and that since these small contractors are part of a Government social program to help the contractors become open-market competitors, JSC exercises considerable patience in dealing with them. The officials also said that one of the reasons that support service contracts are awarded on a cost-type basis is because the contractors may not have adequate estimating systems for fixed-price contracts and some experience financial difficulties if forced to operate under fixed-price contracts.

APPENDIX I

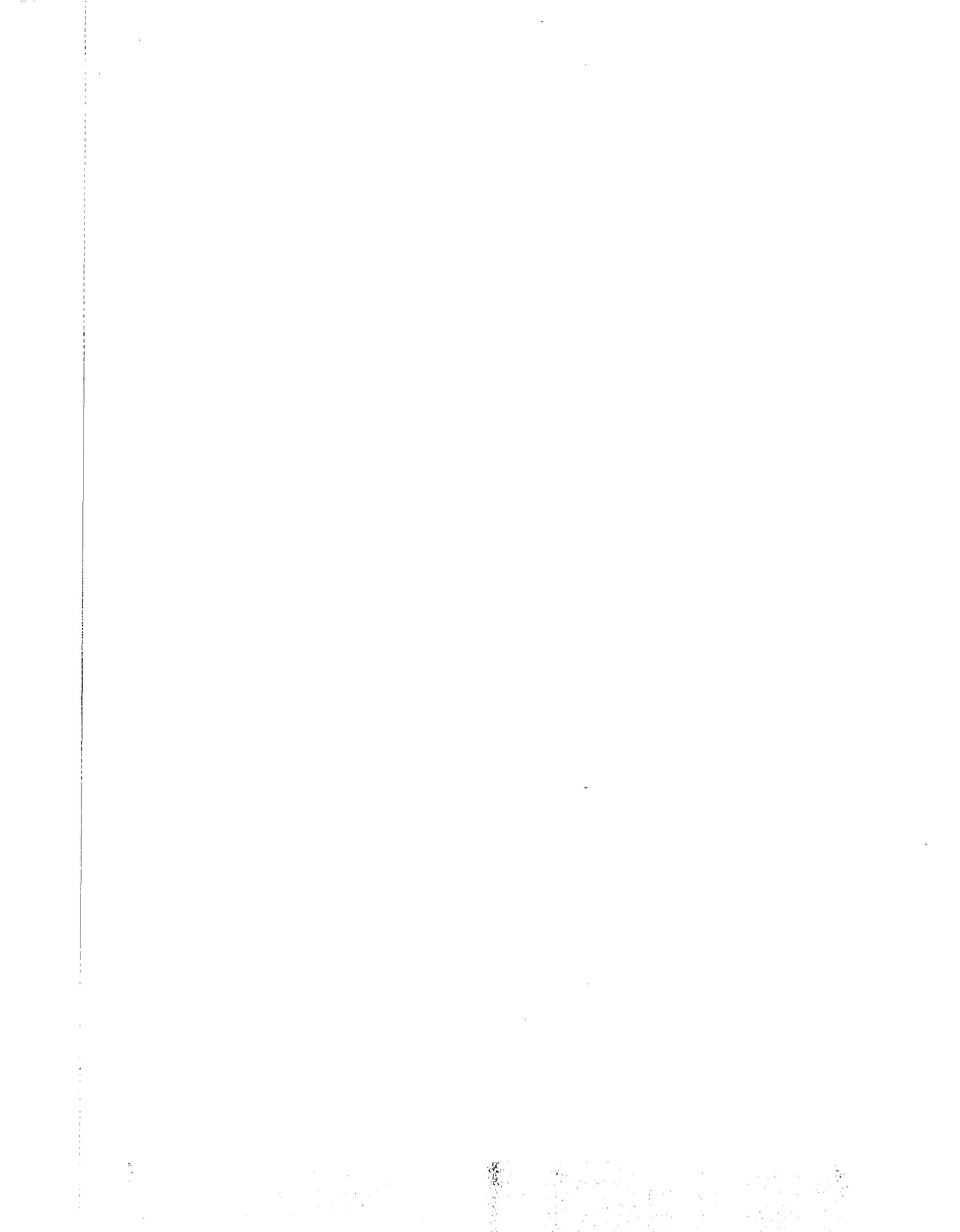
APPENDIX I

| | <u>FY 1979 expenditures</u> |
|---|---------------------------------|
| <u>Support services contracts</u> | |
| Operation and maintenance of laboratories and test facilities | \$ 12,841,000 |
| Maintenance and modification of JSC- assigned aircraft (note a) | 5,621,000 |
| Custodial support | 1,124,000 |
| Plant maintenance and operation support | 8,162,000 |
| Engineering support | 1,261,000 |
| Instrumentation and design engineering support (note a) | 527,000 |
| Keypunch data entry | 403,000 |
| Central shop support | 527,000 |
| Maintenance and modification of JSC simulator complex | 13,474,000 |
| Television support | 1,609,000 |
| Photographic support | 1,408,000 |
| Medical operations and laboratory research support | 1,470,000 |
| Rigging and test equipment assembly support | 289,000 |
| Maintenance of NASA's B-747 for space shuttle tests (note b) | 398,000 |
| Safety, reliability, and quality assurance support | 5,334,000 |
| Maintenance and operations of White Sands, New Mexico, test facilities | <u>14,900,000</u> |
| Total | <u>\$173,444,000</u> |

a/Our reviewed contracts.

b/Two contractors held this contract during fiscal year
1979.

(950545)



We recognize that agencies having SBA-sponsored contractors may encounter some administrative difficulties. However, the major problem noted in this review did not relate primarily to SBA contracts, but to JSC's general lack of contract monitoring. For example, on one of the two SBA contracts examined, JSC failed to have properly signed work authorizations for the contractor. Although the other contract we examined was experiencing problems because the contractor did not have an adequate accounting system, JSC officials allowed the contractor to operate for several years without keeping financial records to support costs claimed for reimbursement. Therefore, this problem and most of the others noted in this report reflect inadequate contract administration by JSC and are not attributable to the use of disadvantaged contractors.

JSC officials said their comments are preliminary until they have an opportunity to review a written report and to confer with the other Government agencies having responsibilities for some of the matters discussed in this report.