

GAO

Report to the Chairman, Committee on
Government Operations, House of
Representatives

December 1988

SPACE SHUTTLE

External Tank Procurement Does Not Comply With Competition in Contracting Act





United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

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The Honorable Jack Brooks
Chairman, Committee on
Government Operations
House of Representatives

Dear Mr. Chairman:

At your request, we are reviewing the National Aeronautics and Space Administration's (NASA) plans to establish and maintain competition in the development and procurement of space shuttle advanced solid rocket motors. To maintain a competitive environment, NASA's plans stipulate that the advanced solid rocket motor will be developed and manufactured in a government-owned, contractor-operated facility. As a part of our review, we inquired into NASA's experience with the production of other shuttle systems in government-owned facilities, including the refurbishment and assembly of solid rocket boosters and the manufacture of external tanks.

NASA awarded a contract for certain parts and materials needed in the manufacture of external tanks in June 1988, and it plans to award another contract for fabrication of 60 tanks in January 1989. NASA solicited proposals for the two contracts exclusively from Martin Marietta Corporation. Our objective was to determine if NASA complied with the Competition in Contracting Act (CICA) of 1984 in these procurements.

Results in Brief

In our opinion, NASA has not justified the sole-source procurement as prescribed by CICA. The Contracting Officer at the Marshall Space Flight Center who was responsible for the acquisition did not prepare and obtain approval of a justification for using noncompetitive procurement procedures, as required by CICA, before awarding the contract in June 1988. Furthermore, in view of NASA's changed requirements, it is questionable whether NASA could justify noncompetitive awards to Martin Marietta at this time.

Background

NASA competitively awarded an external tank development contract to Martin Marietta in September 1973, which provided for the development and testing of the external tank and the delivery of six flight tanks. The contract has been completed.

In February 1978 NASA awarded a noncompetitive follow-on contract to Martin Marietta for the production of an additional 54 external tanks. According to the Contracting Officer, NASA has accepted 43 of the 54 tanks. As of October 1988, 19 of the 54 tanks had been flown, 23 were in storage for use on future flights, and 11 remain to be delivered.¹ After the Challenger accident on January 28, 1986, NASA amended this contract to slow the external tank production rate from 12 to 4 per year and extend the contract period of performance to April 1991.

NASA was preparing to award another noncompetitive contract to Martin Marietta on January 31, 1986, for the procurement of an additional 60 external tanks. The request for proposal for this contract, which was supported by a 1983 justification for noncompetitive procurement, was issued in 1984. According to NASA, no other firm was asked to submit a proposal for this contract because Martin Marietta was the only company that could produce the tanks without causing a major disruption to the shuttle program. The shuttle flight rate was expected to increase rapidly, and there were no spare tanks to allow time to transfer production to another contractor. The delivery schedules were developed based on the assumption that Martin Marietta would continue the production. However, as a result of the Challenger accident, NASA decided to postpone awarding this contract.

Subsequently, NASA decided not to award this second follow-on contract as originally planned. NASA changed the contract's fee structure from a fixed-price-incentive fee to a cost-plus-award fee basis and divided the procurement into two parts. In 1987 NASA issued two new sole-source solicitations, again supported by the 1983 justification for noncompetitive procurement, to Martin Marietta for procurement of the additional 60 tanks. The first solicitation (8-H-4-SA-98540), dated February 27, 1987, was for certain parts and materials needed in manufacturing the tanks. The solicitation resulted in the award of contract NAS8-36200 in June 1988. With the inclusion of the maximum potential award fee, the contract is valued at \$567.5 million. The second solicitation (8-H-4-SA-98554), dated November 13, 1987, was for fabrication of the 60 tanks. Martin Marietta submitted a proposal for about \$2,186.9 million for the tank fabrication contract in March 1988. NASA plans to award this contract in January 1989.

¹The one remaining tank, designated ET-7, was cannibalized for parts and not flown.

Contracting Officer Has Not Prepared Justifications for the Sole-Source Acquisitions in Accordance With CICA

The Competition in Contracting Act of 1984, the provisions of which are applicable to solicitations issued after March 31, 1985, mandates that competitive procedures be used by agencies to obtain full and open competition unless one of seven circumstances (exceptions) set forth in the act is met. CICA states that detailed procedures must be followed to justify the use of such noncompetitive procedures. The Contracting Officer is required to prepare a written justification, certify the accuracy and completeness of the justification, and obtain approval for the acquisition from the appropriate agency official. Contracts, such as this one, for an amount exceeding \$10 million must be approved by an agency's senior procurement executive. Moreover, the written justification must include a description of the agency's needs, the rationale for utilizing noncompetitive procedures, a determination that the anticipated contract cost will be fair and reasonable, a description of the market survey conducted or a statement of the reasons a market survey was not conducted, and a statement of the actions, if any, the agency may take to remove or overcome any barriers to competition in future procurements for such needs.

NASA did not prepare a written justification for the noncompetitive award to Martin Marietta for the parts and materials or the proposed award to Martin Marietta for the actual fabrication effort. Instead, it relied on the 1983 justification for noncompetitive procurement, which was prepared before the effective date of CICA and therefore did not contain all the information prescribed by the act. According to NASA's Deputy General Counsel, CICA's requirements for preparing a justification for use of noncompetitive procedures do not apply to these two procurements because the acquisition for external tanks was initiated before the effective date of CICA and was supported by an appropriate justification for noncompetitive procurement prepared in accordance with the statutes and regulations applicable at that time. In this regard, the Counsel notes that Marshall Space Flight Center issued a request for proposals, supported by the 1983 justification, to Martin Marietta in September 1984. Marshall planned to award the contract to Martin Marietta for the requested fuel tanks on January 31, 1986. However, Marshall postponed awarding the contract due to the Challenger accident 3 days earlier. According to the Counsel, in December 1986 NASA decided to reassess its needs rather than proceed with the procurement as originally structured. The original procurement combined the acquisition of the materials and the actual fabrication of the tanks; instead, NASA decided to divide the procurement into components so that it could proceed with the acquisition of the materials ahead of the fabrication. Furthermore, according to the Counsel, NASA then amended the terms of the original

solicitation to reflect the separation of the procurement into two parts and to change the fee structure of the procurement from a fixed-price-incentive fee to a cost-plus-award fee basis.

The Counsel maintains that, given these circumstances, NASA correctly viewed the issuance of the two requests for proposals as a solicitation amendment, thus indicating a continuation of an ongoing procurement rather than a newly initiated procurement. The Counsel notes that CICA is silent concerning its applicability to revisions to previously released solicitations. Moreover, the Counsel reasons that, instead of having suspended the procurement after the Challenger accident, NASA could have awarded the contract in January 1986 and then amended its terms to stop performance until 1989, thereby clearly avoiding the applicability of CICA. Therefore, according to the Counsel, any conclusion we reached with respect to NASA's compliance with a technical requirement of CICA would be "one of form rather than substance."

Even though NASA characterizes the current procurements as a continuation of a prior procurement action, we believe they constitute new procurement actions according to requirements under CICA. By its express terms, CICA applies without exception to any solicitation for bids or proposals issued after March 31, 1985; thus, each solicitation, regardless of purpose, that is issued by an executive agency after this date must comply with CICA's requirements, including those pertaining to the use of other than competitive procedures. Accordingly, we believe that NASA's issuance in 1987 of the new solicitations for the parts and materials and fabrication effort made these solicitations subject to all of CICA's requirements. The fact that the materials and services sought were the same as those previously requested does not by itself exempt these new solicitations from CICA on the basis that they are a continuation of the prior solicitation. Therefore, before issuing these new and distinct solicitations, NASA should have prepared two new justifications for using other than competitive procedures for these acquisitions to be consistent with the requirements of CICA. These justifications should include information not contained in the 1983 justification such as a description of the market survey conducted or the reasons a market survey was not conducted and a statement of actions NASA may take to remove or overcome any barriers to competition in future procurements.

We believe our conclusion is not a matter of form rather than substance. Given the need to suspend the procurement indefinitely after the Challenger accident in January 1986, it was not reasonable for NASA to continue to rely on the 1983 justification for proceeding with a

noncompetitive award in 1988 without reconsidering the availability of competition. The March 31, 1985, effective date of CICA was intended to permit procurements in progress to continue uninterrupted. It was not intended to permit agencies to keep pre-CICA sole-source justifications in suspension indefinitely so they could be used years into the future.

We do not agree with NASA that it could have properly awarded the contract in 1986 and then immediately amended the contract to stop performance until it was needed in 1989. Proceeding in this manner would have been improper. An agency may not award a contract when there is no need for the contract at the time of the award (see 53 Comp. Gen. 92, 94 (1973)). Thus, although circumstances may arise after a contract award that might require performance to be delayed, we do not think it would have been proper for NASA to have made an award in 1986 with the intention of immediately and indefinitely suspending contract performance.

Changed Circumstances Raise Questions About Justifying Noncompetitive Procurements

NASA's requirements for the parts and materials and the actual fabrication of the external fuel tanks have changed significantly since 1982 when NASA first contemplated the follow-on contract for an additional 60 tanks. These changed circumstances raise questions as to whether NASA could justify at this time the use of noncompetitive procedures for these goods and services.

The 1983 justification for noncompetitive procurement prepared by NASA characterized Martin Marietta as the only company that could accomplish the production effort without a major disruption to the shuttle program. According to the justification document, the tank delivery schedules were developed to continue the effort by the incumbent contractor and did not have any oversupport (spare tanks) to allow time to transfer the production to another contractor.

However, when the new solicitations were issued in 1987, Martin Marietta may not have been the only firm that could have satisfied NASA's needs. Between 1983 and 1987, NASA's inventory of fuel tanks had increased dramatically. By 1987 NASA had 23 tanks in storage and another 11 still to be delivered under the existing contract. Based on NASA's August 1988 shuttle manifest, these 34 tanks are enough to support all shuttle flights planned through July 1992. Also, NASA's annual need for external tanks has been lessened due to a less ambitious flight schedule than previously considered. When the noncompetitive justification document was approved in 1983, Martin Marietta was producing

tanks at a rate of about 12 per year, and NASA planned for the contractor to increase the production rate to 24 tanks per year during the period of the follow-on contract. By 1987, however, the maximum production rate under the existing contract had been slowed to 4 tanks per year, and the planned maximum rate for the new procurement was reduced to 12 tanks per year.

Factors That May Be Considered in Justifying Sole-Source Award

CICA recognizes that a follow-on contract for the continued development or production of a major system or highly specialized equipment can be properly awarded on a noncompetitive basis in certain limited circumstances. CICA provides that such equipment may be deemed to be available only from the original source when the award to another source would likely result in a substantial duplication of cost that is not expected to be recovered through competition or in an unacceptable delay in fulfilling the agency's needs.

It is not clear, however, that NASA could justify a sole-source award based on this section of CICA, since many of the traditional barriers to competing follow-on contracts do not apply to the external tank situation. As previously indicated, by 1987 schedule pressures had been considerably alleviated, thereby substantially reducing the likelihood that award to other than Martin Marietta would cause unreasonable delays in the acquisition of the fuel tanks. Also, because the external tank is produced in a government-owned facility with government-owned tooling and equipment, the award to a different contractor would not result in a substantial duplication of costs for facilities and tooling.

With respect to this latter point, all of the data that would be needed by competing firms are available, according to the External Tank Project Manager. Under the terms of the contract, NASA requires Martin Marietta to maintain a recompetition data package. The Project Manager told us that no proprietary processes are involved in the manufacture of the external tanks. Furthermore, according to the Project Manager, provision could be made to transfer materials and parts purchased under the 1988 contract to a different fabrication contractor. In addition, although some experience would undoubtedly be lost if a competitor won the tank fabrication contract, the extent of the loss is difficult to determine, since it would depend on the number and types of experienced personnel retained by the new contractor, according to the Project Manager. Therefore, a new contractor might not incur significantly more costs than Martin Marietta in the fabrication of the fuel tanks.

We have been advised by contracting officials that a decision had been made within NASA not to recompute the external tank or its components. According to these officials, this decision was based on Martin Marietta's excellent performance in a number of areas, such as quality, productivity, and cost. These officials pointed out that the contractor had consistently underrun cost targets and received a number of awards from NASA for high quality and productivity. Furthermore, they stated that factors such as these are appropriately weighed when a decision is made to continue with a sole supplier or obtain competition on a contract. We recognize that Martin Marietta possesses valuable experience not shared by other potential contractors, since it developed and produced the external tank. However, this is not a proper basis under CICA for continuing to use other than competitive procedures in the external tank procurement.

Conclusions

We believe that NASA should follow the provisions of CICA when acquiring the parts and materials and tank fabrication. NASA issued the solicitations for these requirements in 1987, 2 years after the effective date of CICA. Furthermore, since the circumstances originally cited in 1983 as justification for a noncompetitive procurement of these requirements have changed substantially, it is questionable whether NASA could justify at this time the use of noncompetitive procedures for these procurements.

Recommendation

We recommend that the Administrator, National Aeronautics and Space Administration, direct the Contracting Officer to comply with the provisions of CICA. According to these provisions, the Contracting Officer should seek full and open competition in awarding the tank fabrication contract. However, if the Contracting Officer determines that other than competitive procedures are warranted by current circumstances, he should prepare a justification, as required by CICA, and obtain the required approvals before awarding the contract.

Objective, Scope, and Methodology

The purpose of our review was to determine if NASA complied with applicable provisions of CICA in soliciting proposals for the external tank contracts exclusively from Martin Marietta. We reviewed the 1983 justification for noncompetitive procurement offered in support of the 1987 solicitations as well as other documents and correspondence relating to the procurements. We also discussed the procurements and reasons for using noncompetitive procedures with NASA's Assistant

Administrator for Procurement and Deputy General Counsel as well as Marshall's External Tank Project Manager, Chief Counsel, and Contracting Officer. We performed our work between October and November 1988 in accordance with generally accepted government auditing standards.

In accordance with your wishes, we did not request that NASA review and comment officially on a draft of this report. However, we sought the views of directly responsible officials during the course of our work, and we included their comments in our report as appropriate.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 3 days after its issue date. At that time we will send copies to the Administrator, National Aeronautics and Space Administration; appropriate congressional committees; and other interested parties upon request.

This report was prepared under the direction of Harry R. Finley, Senior Associate Director. Other major contributors are listed in appendix I.

Sincerely yours,



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Assistant Comptroller General

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