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Comptroller General
of the United States
Washington, D.C. 20548

Decision

Matter of: S-TRON

File: B-244767.2

Date: May 1, 1992

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Maj. William R. Medsger, Esq., and Christopher G. Barrett, Esq., Department of the Army, for the agency.
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DIGEST

Where technical factor was substantially more important than cost under stated evaluation criteria, agency reasonably selected for award offeror whose proposal, although potentially of higher cost, offered the greatest likelihood of satisfying urgent need for vital, life-safety system--inflatable body and head restraint system for deployment during helicopter crashes--within required expedited delivery schedule.

DECISION

S-TRON protests the Department of the Army's award of a contract to Simula, Inc., under request for proposals No. DAAJ09-90-R-0881, for the follow-on development of the Inflatable Body and Head Restraint System (IBAHRS). S-TRON protests the agency's evaluation of its proposal.

We deny the protest.

The solicitation requested proposals for a cost-plus-fixed-fee contract to complete development of the IBAHRS, including the design, building and/or purchase of the requisite components of the system and the assembly of the components into preproduction prototype kits which can be installed on Army and Marine Corps attack helicopters. The IBAHRS is an enhanced personnel restraint system which, by means of crash acceleration-triggered, gas-inflated bladders located between the shoulder restraint straps of the aircrew harnesses and the crew member's upper torso, constrains the movement of the upper torso, and therefore the head, of the crewmember in order to reduce the likelihood of injurious head contact with the aircraft structure, equipment and flight controls during a crash. The system includes a crash

sensor, signal transmission lines, inflatable bladders, a cool gas generator inside each bladder to inflate the bladder, and the aircraft harness restraint assembly.

The Army reports that the IBAHRS system is urgently needed as a safety improvement because, in a number of otherwise survivable crashes, aircrew, specifically gunners, have suffered fatal injuries when their heads struck the aircraft structure and equipment during crashes. Accordingly, the solicitation advised offerors of the agency's "immediate operational requirement" for the IBAHRS and established an accelerated delivery schedule, requiring the development and delivery of the initial kits within 180 days after award. In order to assist the contractor in furnishing an acceptable system within the expedited delivery schedule, the agency furnished as part of the solicitation its "Lessons Learned Summary," documenting the previous development and extensive testing of the initial prototypes.

The solicitation generally provided for award to be made to the offeror whose proposal demonstrated that it can perform the contract in the manner most advantageous to the government. The solicitation specifically provided for proposals to be evaluated on the basis of technical, management and cost factors; the technical factor was described as substantially more important than either management or cost, which were equal in importance. Under the technical factor, the solicitation listed subfactors for understanding the work to be performed, quality assurance and manufacturing. With respect to the required understanding of the work to be performed, the solicitation advised offerors that the offeror's ability to deliver the components on schedule was "of particular importance."

The Army received four proposals in response to the solicitation; all were included in the competitive range. Following discussions, the agency requested best and final offers (BAFO). Based upon the evaluation of BAFOs, Simula was selected for award. When the agency then made award to Simula, S-TRON and another offeror protested to our Office. Upon reviewing the procurement and concluding that offerors had not been adequately advised during discussions of the deficiencies and weaknesses in their proposals, the agency issued a stop-work order to Simula, reopened negotiations, conducted oral discussions, and requested revised BAFOs. While Simula simply amended its proposal to address the points raised during discussions, S-TRON and the other offerors totally revised their proposals. Based upon their evaluation of the revised proposals, however, agency evaluators again concluded that Simula had submitted the most advantageous proposal.

Agency evaluators concluded that Simula's proposal demonstrated a full, complete and accurate understanding of all of the technologies, in particular those concerning crash dynamics and human response characteristics when subjected to crash loadings, which were critical to the successful design and development of the IBAHRS. They found that Simula had exhibited a thorough grasp of each of the critical "lessons learned" and had presented clearly viable and technically superior approaches for resolving the problems identified in the solicitation. In addition, with respect to past performance, a subfactor under the management factor, evaluators noted that Simula: had prior experience working with air bag-augmented restraint systems; had created a major design guide for the design of crash worthiness in helicopters; and had assembled a team which included the "premier companies" in their fields, fields which "generally require highly specialized knowledge acquirable only through long experience." The evaluators concluded that the superiority of Simula's technical approach, the thoroughness and validity of its supporting analyses and design work, the advanced status of its design, and the completeness of its planned development program, resulted in a substantial reduction of risk to the government and enhanced the probability that the firm would furnish a successful design within the required schedule and evaluated cost ($4,582,764; proposed cost of $3,993,470).

In contrast, agency evaluators determined that S-TRON's proposal demonstrated that the firm did not adequately understand crucial, core IBAHRS technologies related to crash dynamics, human dynamic response to crash loading, and bladder inflation and stability. Evaluators specifically found that S-TRON had proposed a noncompliant bladder design. The solicitation required the contractor to correct the primary problem with the bladders identified during testing, that is, their tendency to rotate out--"roll-out"--from underneath the harness assembly shoulder straps during or after deployment; roll-out renders the bladder ineffective in restraining the crew member during a crash. Although the Lessons Learned Summary advised offerors that the prior testing had established that initial storage of the inflated bladders under the shoulder straps of the aircrew harness assembly contributed to the "roll-out" problem, S-TRON's preferred approach nevertheless called for the bladder to be stowed under the shoulder straps (while its alternate approaches were determined to render the bladder vulnerable to leakage or catastrophic failure). Agency evaluators also questioned as inherently unsafe S-TRON's design for the crash sensor firing circuit; according to the evaluators, the design was such that a short-circuit in any one of several wires, which could occur as a result of the abrasion of exposed wiring, could result in the unnecessary deployment of the bladders. In addition,

the agency has determined that S-TRON's description of the dynamic forces generated by inflation of the bladders during a crash was inaccurate.

Agency evaluators further noted that it did not appear from S-TRON's proposal that the firm had any experience in which it was likely to have acquired knowledge of crash dynamics and the restraint of humans subject to crash loading. In view of the above concerns, the evaluators questioned whether S-TRON possessed the thorough grasp of the requisite technologies needed for it to act as the team leader for its proposed team of subcontractors. Furthermore, the evaluators also questioned Simula's selection of a firm whose harness restraint system was still undergoing qualification testing as the subcontractor for the system. While S-TRON proposed to acquire the restraint system from a currently qualified source if its primary choice was not qualified within 60 days of award, the evaluators believed that switching the supplier for a major component during the course of the contract could cause significant interface problems and require reengineering, resulting in cost growth and schedule slippage.

Although S-TRON proposed the lowest cost ($3,113,265), and its evaluated cost ($4,076,355), even after an adjustment upwards for cost realism, remained lower than Simula's ($4,382,764), the Army questioned whether either S-TRON's proposed or evaluated costs actually reflected the likely true cost to the government of an award to the firm. In view of S-TRON's demonstrated lack of an understanding of the IBAHRS and related core technologies, and the deficiencies in its design, the agency forecast further cost growth, as well as a high risk of failure and schedule slippage if award were made to S-TRON. The agency therefore affirmed its award to Simula. This protest followed.

S-TRON does not dispute many of the specific evaluation findings. Although S-TRON claims the design was compliant with the specifications, it does not deny that its proposed bladder design was inconsistent with the findings of the Lessons Learned Summary included in the solicitation. Nor does S-TRON deny that its crash sensor firing circuit was not in accordance with good engineering practice; it admits that it was not.[1] Rather, S-TRON essentially argues that

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[1]S-TRON also questions the Army's failure to advise it during discussions of the deficiency with respect to its proposed crash sensor firing circuit. Although S-TRON indicates that the deficiency was included in the design submitted with its first BAFO, the schematic submitted with
(continued...)

the emphasis placed by the Army upon the perceived deficiencies and weaknesses in its technical proposal, and upon the advanced status of Simula's design, was inconsistent with the developmental nature of the work required under the solicitation. In any case, according to S-TRON, the perceived deficiencies or weaknesses involved either design tradeoffs--i.e., with respect to its preferred bladder design--or were easily correctable--i.e., its crash sensor firing circuit. Simula also argues that its offer of an alternate qualified source for the harness restraint system should have alleviated any concern regarding its proposal to initially rely upon an unqualified source. As for its prior experience, Simula maintains that its work in developing an automatic, inflatable life preserver represented experience with a "comparable complex system."

In reviewing an agency's technical evaluation, we consider whether it was reasonable and in accord with the evaluation criteria listed in the solicitation. Information Sys. & Networks Corp., 69 Comp. Gen. 284 (1990), 90-1 CPD ¶ 203. Based upon our review of the record, we find the agency's evaluation reasonable.

Contrary to S-TRON's argument, while the solicitation required the contractor to complete development of the IBAHRS, this in no way established that it was unreasonable for the agency to evaluate more highly the proposal offering the least development risk, and the greatest likelihood of satisfying the expedited schedule for delivery of an urgently-needed critical life-safety system. As we have previously recognized, consideration of the risk involved in an offeror's approach is inherent in the evaluation of technical proposals. See Contraves USA, Inc., B-241500, Jan. 7, 1991, 91-1 CPD ¶ 17.

As such, it clearly was reasonable for the Army to evaluate Simula's proposal more highly than S-TRON's. Again, the Army found, and S-TRON has made no showing to the contrary, that Simula demonstrated in its proposal an accurate understanding of crash dynamics and the IBAHRS technologies, and proposed a viable and technically superior design which took

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[1](...continued)
its second BAFO was different in content and included more detail than the schematic submitted with its first BAFO. According to the agency, the additional detail in the second BAFO allowed evaluators for the first time to identify the deficiency. Since the deficiency was only apparent after the conclusion of negotiations, the agency was not required to reopen discussions to permit its correction. See generally Virginia Tech. Assocs., B-241167, Jan. 29, 1991, 91-1 CPD ¶ 80.

into consideration the lessons learned during the prior testing. In contrast, S-TRON proposed as its preferred approach a design for bladder storage which had been found to contribute to failure of the system, included in its proposal a crash sensor firing circuit which it admits was inconsistent with good engineering practice and may result in unnecessary deployment of the system, and inaccurately described critical dynamic forces. We find that the Army reasonably concluded that these deficiencies and weaknesses in S-TRON's technical approach called into question its understanding of the IBAHRS and related technologies, and therefore its ability to meet the expedited delivery schedule. Likewise, we find reasonable the agency's concern with S-TRON's proposal to initially rely upon an unqualified source for the harness restraint system; we agree with the agency that S-TRON's offer to switch contractors, if necessary, 60 days into an 180-day delivery schedule posed a serious potential risk to compliance with the expedited delivery schedule. As for its prior experience with the automatic life preserver, the agency reports, and S-TRON does not deny, that the IBAHRS bladder is characterized by significantly higher peak pressures and greater flow rates; in view of these differences, we cannot conclude that the agency was unreasonable in finding the experience of minimal relevance.

S-TRON also challenges the Army's upward cost realism adjustment to its cost proposal. In addition to generally disagreeing with the adjustments, S-TRON specifically disputes the most significant area of adjustment--i.e., the increase in engineering cost to account for the need to requalify its proposed gas generator; according to S-TRON, requalification is unnecessary.

We find no basis upon which to question the reasonableness of the agency's determination to significantly increase S-TRON's proposed costs as part of its cost realism analysis. See United Eng'rs & Constructors Inc., Stearns-Rogers Div., B-240691; B-240691.2, Dec. 14, 1990, 90-2 CPD ¶ 490. The agency justifies the necessity for requalification of the proposed generator on the basis that the generator, which never entered full-scale production, has not been produced since production of the test lot approximately 8 to 10 years ago, and that, in any case, S-TRON has proposed a number of changes to the previous design. In these circumstances, and given the critical, life-safety mission of the IBAHRS, we find reasonable both the agency's view that requalification testing would be appropriate and its upward adjustment to S-TRON's proposed cost to account for this additional expense.

S-TRON maintains that it submitted a technically equal proposal and that therefore its lower cost entitles it to

award. On the contrary, however, the Army reasonably found Simula's proposal to possess a significant technically superiority relative to S-TRON's. Further, although the cost realism analysis calculated a lower cost for S-TRON than for Simula, as indicated above, given S-TRON's lack of technical understanding and inadequate proposed designed, the actual cost of award to S-TRON may exceed the agency estimate. In any case, under the evaluation criteria, the technical factor was substantially more important than cost. In these circumstances, the Army reasonably determined to accept Simula's proposal which offered a significantly greater likelihood of satisfying the agency's urgent need for a vital, life-safety system on a timely basis.

The protest is denied.

for James F. Hinchman
General Counsel