



The Comptroller General
of the United States

Washington, D.C. 20548

Decision

Matter of: Varian Associates, Inc.

File: B-228545

Date: February 16, 1988

DIGEST

1. Where the solicitation requested proposals for an experimental investigation of promising technology and innovative approaches to improving the performance or reducing the cost of traveling wave tubes, agency did not act unreasonably in selecting a possibly riskier, more experimental approach, that offered the potential for a greater advancement in the state of the art, over an approach based upon a level of effort significantly less than both the solicitation estimate of the required effort and that proposed by the awardee.
2. Agency did not fail to conduct meaningful discussions where oral discussions with the protester led the protester into the general areas of its proposal which were viewed as relatively weak, but did not render the proposal technically unacceptable.

DECISION

Varian Associates, Inc. protests the award of a contract to Star Microwave under request for proposals (RFP) No. F30602-87-R-0093, issued by the Department of the Air Force for research into improving traveling wave tubes (TWTs). Varian alleges that the evaluation of proposals was unreasonable and inconsistent with the evaluation criteria set forth in the RFP. We deny the protest.

TWTs amplify radio frequency signals by coupling the signals with an electron beam focused by magnets. The Air Force noted in the solicitation that at certain wavelengths, standard designs for focusing the electron beam require the use of thin and fragile magnets that are difficult and expensive to manufacture and handle; the magnetic field achievable with such designs also limits peak power, and the cooling requirements limit the average power levels that can be achieved. The solicitation thus requested proposals for a labor-hour, cost-reimbursement contract for an investigation and demonstration of "promising technology" for improving performance or reducing the cost of the TWTs.

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The solicitation provided for proposals to be evaluated on the basis of four evaluation factors, listed in descending order of importance as: (1) technical considerations, including understanding of the problem, soundness of approach, and the probability and magnitude of the likely reduction in cost or improvement in performance; (2) cost, described as a "substantial factor" in selection; (3) whether the offeror's qualifications confirm that it has the technical capability successfully to perform the required project; and (4) past performance.

All three of the proposals received in response to the solicitation were found to be technically acceptable. The proposal submitted by Star Microwave was ranked first in order of technical merit. Star Microwave proposed to investigate long period focusing, a method of focusing the electron beam using longer, but up to 80 percent fewer, magnets. According to the Air Force, longer magnets will be easier to handle, less costly to produce and should result in a higher yield; assembly and adjustment time for the TWT should be greatly reduced; and there will be the potential for higher peak power and improved cooling of the TWT. The agency considered Star Microwave's proposed investigation to be a new and innovative approach offering "an excellent probability of significantly advancing the state of the art."

The proposal submitted by Varian was ranked second in order of technical merit. Varian proposed improving the electron beam focusing circuit through refinement of Varian's confined flow focusing approach, described by Varian as a form of short period focusing using a higher magnetic field. Agency evaluators concluded that Varian's proposed approach would yield only a limited improvement in the state of the art, resulting in somewhat of a reduction in production costs and some possibility of superior performance. They questioned the extent to which improvements in confined flow focusing would be of value for the design of most TWT's, which do not use confined flow focusing, and whether Varian's proposed approach would reduce the life of the TWT's cathode, used to generate electrons for the electron beam. Moreover, Varian's proposed level of effort (4,380 manhours) was only 46 percent of the solicitation estimate of the effort considered necessary for satisfactory performance (approximately 9,500 hours); evaluators found Varian's proposed effort insufficient to achieve any significant advance in the state of the art.

After conducting oral negotiations with all offerors, the Air Force requested the submission of best and final offers (BAFOs). Notwithstanding the fact that Star Microwave

proposed a total cost (\$680,019) substantially in excess of that proposed by Varian (\$435,000), the agency determined that acceptance of Star Microwave's BAFO would be most advantageous to the government. Upon learning of the ensuing award to Star Microwave, Varian filed this protest with our Office.

Varian considers the long period focusing proposed by Star Microwave to be a highly speculative, unproven approach that offers little probability of significantly advancing the state of the art. As for its own approach, Varian maintains that the improvements it proposed to make in the electron beam focusing circuit would have widespread applicability, extending beyond the particular combined-flow focusing system described in its proposal. It alleges that the overall evaluation of proposals and the specific emphasis placed by the agency on the lesser number of hours proposed by Varian failed to take into account Varian's position as an established, experienced manufacturer of TWTs, the availability to it of sophisticated computer models and computer-controlled test equipment, and the high proportion (approximately 73 percent) of Varian's proposed effort that would be provided by scientists and engineers (rather than by technicians).

The evaluation of technical proposals is primarily the responsibility of the contracting agency; the agency is responsible for defining its needs and the best method of accommodating them, and must bear the burden of any difficulties resulting from a defective evaluation. Accordingly, our Office will not make an independent determination of the merits of technical proposals; rather, we will examine the agency's evaluation to ensure that it was reasonable and consistent with stated evaluation criteria and applicable statutes and regulations. The protester bears the burden of showing that the evaluation is unreasonable, and the fact that it disagrees with the agency does not render the evaluation unreasonable. A clear showing of unreasonableness is particularly necessary where the procurement concerns sophisticated technical hardware. See GTE Government Systems Corp., B-222587, Sept. 9, 1986, 86-2 CPD ¶ 276.

The solicitation required a "theoretical and experimental investigation" of "promising technology," inviting "innovative modifications" of the magnetic focusing circuit. Varian has failed to demonstrate that the Air Force lacked a reasonable basis for determining that Star Microwave's proposed approach, although perhaps riskier, nevertheless

offered the potential for a greater advance in the state of the art, resulting in a reduction in cost and the possibility of an increase in performance.

Nor has Varian shown that it was unreasonable for the Air Force to consider its proposed level of effort (4,380 hours) to be inadequate. The solicitation placed offerors on notice of what the agency considered an appropriate level of effort. The Air Force explains that the agency's estimate of approximately 9,500 hours was based upon the levels required for prior, similar investigations, some of which were conducted by Varian. Moreover, Varian's proposed effort was only 46.9 percent of that (9,338 hours) proposed by Star Microwave and 68.4 percent of that (6,400 hours) proposed by the third offeror. Although the protester points to the high proportion of its effort to be provided by scientists and engineers, we note that the protester in fact proposed significantly fewer actual manhours of effort by scientists and senior engineers (1,710 hours) than were included in the government estimate (2,400 hours) or proposed by Star Microwave (2,038 hours), and significantly fewer actual manhours of effort by scientists and all engineers (3,210 hours) than were included in the government estimate (4,400 hours) or proposed by either Star Microwave (3,772 hours) or the third offeror (5,120 hours).

The Air Force recognized in its evaluation that Varian was "a world leader" with extensive experience in the design of millimeter-wave tubes. Nevertheless, although Star Microwave was a relatively new, small business, its senior engineers were considered by the agency to possess a "wealth of knowledge and experience" in the field. Moreover, we note that Star Microwave's proposal specified the facilities and equipment to be used in performing the proposed investigation. The agency concluded that any advantages possessed by Varian were insufficient to offset its significant understatement of the required level of the effort and the technical superiority of Star Microwave's approach.

Varian contends that any possible technical superiority of Star Microwave's proposal was more than offset by Varian's lower proposed cost (\$435,000) which was \$245,019 less than that proposed by Star Microwave (\$680,019). As previously indicated, however, the solicitation provided that, although a substantial factor, cost would be less important than technical considerations in the evaluation of proposals. Further, Varian's contention ignores the fact that, unlike Star Microwave, its proposed cost was based on providing a level of effort substantially less than the level the solicitation indicated was necessary for adequate performance. In this regard, Varian's base labor rates for

both engineering and non-engineering personnel generally exceeded those set forth in the government estimate and those proposed by Star Microwave and Hughes. As a result, while Star Microwave's proposed level of effort was 113 percent greater than that proposed by Varian, its proposed cost was only 56 percent higher.

Given the emphasis placed by the solicitation on the experimental investigation of promising technology and innovative approaches, we do not believe that it was unreasonable for the Air Force to select a possibly riskier, more experimental approach, that offered the potential for a greater advancement in the state of the art, over an approach based upon a level of effort significantly less than the solicitation estimate of the required effort or that offered by the awardee.

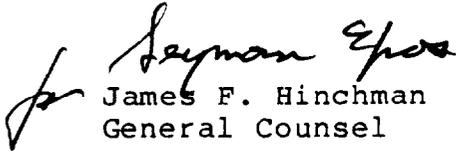
In view of this conclusion, we need not consider Varian's additional argument that the contracting officer acted improperly when he took into consideration Star Microwave's offer of unlimited rights to a circuit design software package. The contracting officer maintains, and we have no basis to question, that the offer of the software was viewed as an enhancement of a proposal already found to be clearly superior on the basis of the listed evaluation criteria.

Varian contends that the Air Force failed to apprise it during negotiations of the perceived deficiencies in its proposal. However, while agencies generally must conduct meaningful written or oral discussions with all offerors in the competitive range, advising them of deficiencies in their proposals and offering the opportunity to submit revised proposals, this does not mean that offerors are entitled to all-encompassing discussions; agencies are only required to lead offerors into areas of their proposals considered deficient. Moreover, where a proposal is considered to be acceptable and in the competitive range, an agency is not obligated to discuss every aspect of the proposal that receives less than the maximum possible score. Tidewater Health Evaluation Center, Inc., B-223635.3, Nov. 17, 1986, 86-2 CPD ¶ 563; see Universal Shipping Co., Inc., B-223905.2, Apr. 20, 1987, 87-1 CPD ¶ 424.

Our review of the record shows that the discussions with Varian were meaningful under this standard. In its BAFO, Varian acknowledged the agency's concern that the proposed manhours appeared to be "less than that required to perform the proposed effort," and that its proposed magnetic focusing system had application only to TWTs using confined-flow focusing. Although Varian denies the agency's assertion that it was orally advised that its proposed approach would affect the operating life of the cathode in

the TWT, and the precise extent of discussions cannot be determined from the record, it appears from Varian's BAFO that the agency at least generally raised the connection between Varian's proposed approach and the cathode. In any case, it should be emphasized that this was viewed as a relative weakness in Varian's approach and not a deficiency that would render Varian's proposal unacceptable. See Emerson Electric Co., B-227936, Nov. 5, 1987, 87-2 CPD ¶ 448.

The protest is denied.


James F. Hinchman
General Counsel