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**DECISION**



**THE COMPTROLLER GENERAL  
OF THE UNITED STATES  
WASHINGTON, D. C. 20548**

**FILE: B-204701**

**DATE: June 2, 1982**

**MATTER OF: Coherent Laser Systems, Inc.**

**DIGEST:**

1. Agency finding that proposal was technically unacceptable is not unreasonable where serious deficiencies are present which cannot be corrected through discussions without rewrite of substantial portions of proposal.
2. It is proper to exclude technically unacceptable proposal from competitive range, even where only one firm remains in competitive range.

Coherent Laser Systems, Inc. (CLS), protests the Department of the Air Force's decision to exclude its proposal from the competitive range, in connection with request for proposals (RFP) No. F33615-81-R-1420, issued by the Aeronautical Systems Division, Wright-Patterson Air Force Base, Ohio.

We deny the protest.

The objective of this procurement is a program for the development of a 10.6-micrometer carbon dioxide (CO<sub>2</sub>) laser source to be used in an airborne multifunctional laser radar system. The laser source must have certain technical characteristics that will permit it to be used for tracking terrain, for target cueing and for weapon delivery. Additionally, the laser source must combine long-operating lifetime and high-power output and still maintain frequency stability under airborne environmental conditions.

The solicitation states that previous laser sources have not successfully combined all of the required performance characteristics and that at the required average output power (15 watts), tradeoffs exist between lifetime, type of modulation, frequency stability, compact design and type of excitation. The program is to address

those tradeoffs, with the objective of combining present state-of-the-art techniques with additional development to deliver a flight qualifiable CO<sub>2</sub> laser. The RFP states that the program is to be pursued in three phases. Phase I is to be a design study that examines the technical tradeoffs involved in fabricating a laser meeting the technical requirements of the solicitation. Phase II is the fabrication and testing of a laser "breadboard" device (first model), and Phase III is the fabrication, testing and delivery of a laser "brassboard" device (final working model).

The solicitation also provides that the following criteria will be used in determining technical acceptability and are listed in descending order of importance. Past performance will be considered in applying each criterion.

"a. Soundness of Approach: The proposal should describe a detailed approach to the design, fabrication, and testing of a flight qualifiable CO<sub>2</sub> laser radar source and should present through discussion of past results and conceptual and/or mathematical arguments, its potential to achieve the performance requirements of the statement of work (para 4.0). The proposal should present a minimum risk approach to all the requirements of the statement of work and show the potential for future growth in meeting the program goals. Evaluation shall be performed on each component of the CO<sub>2</sub> laser radar source and weighed against its effect on the overall source performance. Consideration shall be given to the compatibility of the laser source in a heterodyne radar system.

"b. Special Technical Factors: It is essential that the proposed personnel have in-depth understanding and experience in CO<sub>2</sub> laser technology, and the construction of flight qualifiable hardware. The proposal should explicitly enumerate all of the presently available fabrication facilities and test equipment relevant to the achievements

of the requirements of the statement of work. The proposal shall document all previous laser experience relevant to the program goals.

"C. Understanding of the Problem: The proposal should substantiate a technical understanding of CO<sub>2</sub> laser device technology and an understanding of flight qualifiable hardware construction and testing procedures.

"D. Compliance with Requirements: The proposal should suggest a program in compliance with the statement of work including detailed task description, labor estimates, and program schedule on AFSC Form 103 or similar format. Resources appropriate to the effort, including personnel, equipment, supplies and facilities (in particular, processing facilities for waveguide CO<sub>2</sub> laser fabrication) should be identified. Exceptions to the statement of work shall be considered only if justified on the basis of sound engineering judgment."

Five proposals were received. After technical evaluation of the proposals, four of the five proposals were found to be technically unacceptable and were excluded from the competitive range. The Air Force provided CLS with the following reasons, keyed to the evaluation criteria, for finding its proposal unacceptable:

"a. Soundness of Approach: Your proposed single large bore laser approach represents high risk technology in direct contrast to the scope of the Statement of Work. Your proposal does not address system heterodyning capabilities.

"b. Special Technical Factors: Although your personnel have experience in CO<sub>2</sub> state-of-the-art laser technology and the construction of related flight qualifiable hardware, you proposed a laser source that relies on new and undemonstrated technology concepts.

"c. Understanding the Problem: Your proposed single 9 mm square bore approach for development of a CO<sub>2</sub> laser radar source lacks demonstrated performance for critical issues such as lifetime frequency stability and flight qualifiable capability. Your approach also lacks heterodyne considerations critical to laser radar applications.

"d. Compliance with Requirements: The Statement of Work requires low risk approaches for advanced development of a CO<sub>2</sub> laser radar source. Your firm proposed new issues relative to lifetime, frequency stability, mode stability, efficiency and evaluation design geometry which need to be addressed at high risk levels."

CLS argues that the problems that the Air Force has with its proposal are not sufficient to exclude the proposal from the competitive range, but, rather, should be resolved through discussions. CLS also contends that the Air Force misapplied the evaluation criteria in evaluating its proposal and improperly treated its baseline design approach as the result of a design study instead of as a flexible starting point. CLS urges our Office to independently evaluate its technical proposal and cites our decisions in Dynamic Science, Inc., B-188472, July 20, 1977, 77-2 CPD 39, and Audio Technical Services, Ltd., B-192155, April 2, 1979, 79-1 CPD 223, as instances in which we performed independent evaluations.

It is not the function of this Office to reevaluate technical proposals or resolve disputes over the scoring of technical proposals. Decision Sciences Corporation, B-182558, March 24, 1975, 75-1 CPD 175; Techplan Corporation, B-180795, September 16, 1974, 74-2 CPD 169; 52 Comp. Gen. 382 (1974). The determination of the needs of the Government and the method of accommodating such needs are primarily the responsibility of the procuring agency, 46 Comp. Gen. 606 (1967), which, therefore, is responsible for the overall determination of the relative desirability of proposals. In making such determinations, contracting officers enjoy "a reasonable range of discretion" in determining which offer should be accepted for award, and their determinations will not be questioned by our Office unless there is "a clear showing of unreasonableness, an arbitrary abuse of discretion, or a violation of the procurement statutes and regulations." MEVIS Corporation, 54 Comp. Gen. 612 (1975), 75-1 CPD 44. This is particularly so where, as here, the agency is procuring sophisticated technical hardware. We did not perform an independent technical evaluation in either of the cases cited by CLS, but, rather, applied the standard set forth above.

Essentially, the Air Force found CLS's proposal technically unacceptable because its proposed baseline design is a high risk approach to solving the problems presented in the RFP and because it failed to address the issue of heterodyning. According to the Air Force, the deficiencies are so substantial that the proposal would not be acceptable without being totally rewritten.

The baseline design proposed by CLS is a large bore, transversely radio frequency excited laser. The Air Force contends that this design is unproven, not based on demonstrated technology and, therefore, presents an unnecessarily high risk. According to the Air Force, CLS's proposal provides performance characteristics and projections based on data from a significantly different design--large bore longitudinally direct current excited lasers. The Air Force claims that the data cannot be extrapolated from one design to the other. The Air Force also points to this statement in CLS's proposal which, it argues, confirms this position:

"Our basic laser has been designed under the assumption of 100MHz excitation since data on low pressure, sealed-off RF excited  $CC_2$  discharges is virtually non-existent, and without experimental verification one cannot be sure that the high density discharge regions will be a smaller fraction of the plasma volume in the larger bore device \* \* \*."

CLS admits that the mode of excitation in its large bore approach involves risk, but argues that it does not justify rejection of its proposal. CLS argues that certain technical specifications in the RFP led it to propose a large bore approach, but that the Air Force now appears to favor a small bore approach. According to CLS, most of its proposal is equally applicable to a small bore approach and could easily be amended to accommodate such an approach. The protester asserts that its approach should have been the subject of discussions and could have been changed if necessary. CLS claims that by rejecting its proposal based on its baseline design approach, the Air Force was, in effect, treating CLS's proposal as the result of the Phase I design study. CLS argues that its baseline design, as set forth in the proposal, was flexible enough to permit changes in basic design type based on the results of the Phase I design study.

The Air Force also found CLS's proposal to be seriously deficient because it did not address the issue of heterodyning, which is critical in radar systems and is required to be addressed under the soundness of approach evaluation criterion. Heterodyning refers to a method of changing the frequency of an incoming radio signal by adding it to a signal generated within the receiver to produce fluctuations or beats of frequency equal to the difference between the two signals. A heterodyne receiver has an advantage over nonheterodyne receivers in that it can significantly reduce the effects of background noise. It is, however, more complicated and requires a stable transmitter and local oscillator.

CLS admits that its proposal does not directly address heterodyning, but argues that various aspects of the proposal imply heterodyne capabilities. The

Air Force disputes CLS's position and specifically points out a number of technical areas in which heterodyne capabilities are not even implied, specifically pointing to CLS's treatment of the local oscillator, which is critical to heterodyning.

We cannot say that the Air Force decision finding CLS technically unacceptable was clearly unreasonable or arbitrary. First, concerning CLS's position that the RFP led it to propose a large bore approach while the Air Force favored a small bore approach, we cannot agree. The RFP required only that the design approach meet the technical requirements at a minimum risk with proven technology and proposals were evaluated on the basis of the perceived risk involved and whether elements of the design approach were based on proven technology, not whether the designs were large or small bore. Other offerors used a variety of approaches. Also, CLS's argument that much of its proposal is equally applicable to a small bore approach is inconsistent with the assertion that the RFP led it to a large bore design. Obviously, CLS and the Air Force disagree as to the degree of risk involved in the baseline design proposed by CLS. However, CLS does agree that there is substantial risk in the mode of excitation and, as the Air Force pointed out, CLS's proposal recognized the lack of experimental data regarding this aspect of the design approach. CLS seems to feel, however, that the baseline design should not be judged as it was proposed because it could be changed based on the results of the Phase I design study. We disagree. The RFP does not contemplate a freewheeling design study that examines greatly divergent approaches; rather, it is intended to examine the problem areas in the proposed baseline design. The proposed baseline design limits the reasonably available options in the remainder of the program and must be evaluated as proposed. If the baseline design could not be evaluated because major changes could be made based on the design study, then the proposals would be nearly impossible to compare and judge for most desirable design approach.

Concerning heterodyning capability, the soundness of approach criteria states that, "consideration shall be given to the compatibility of the laser source in a heterodyne radar system." Additionally, the goal of the program is not just the development of a laser source, but, rather, the development of a laser source to be used

in airborne radar systems. The heterodyning aspects of the system are critical to the use of the laser. Even accepting CLS's assertion that its proposal implied heterodyne capabilities, we think that the Air Force was reasonable in finding it seriously deficient on this point. Implications scattered throughout a proposal is not an adequate way of addressing a critical and complex feature. The Air Force pointed out that all other offerors adequately addressed the issue. Our review of the technical evaluations supports that statement.

CLS generally argues that because its proposed personnel are the leading authorities in the area, its proposal should not have been excluded from the competitive range. The Air Force did recognize the excellence of CLS's personnel. However, the proposal must be judged on its merits as written and in this case, the proposal was deficient. University of New Orleans, B-184194, January 14, 1976, 76-1 CPD 22.

Once a proposal is determined to be technically unacceptable, it is generally proper to exclude it from the competitive range. The determination of whether a proposal is in the competitive range, particularly with respect to technical consideration, is primarily a matter of administrative discretion which will not be disturbed by our Office absent a clear showing that the determination lacked a reasonable basis. Dynallectron Corporation, B-185027, September 22, 1976, 76-2 CPD 267; Donald N. Humphries & Associates et al., 55 Comp. Gen. 432 (1975), 75-2 CPD 275. We, however, will scrutinize more closely any determination that results in only one offeror being included in the competitive range. Dynallectron Corporation, supra; Comten-Comress, B-183379, June 30, 1975, 75-1 CPD 400. In Comten-Comress, supra, we stated:

"\* \* \* If there is a close question of acceptability; if there is an opportunity for significant cost savings; if the inadequacies of the solicitation contributed to the technical deficiency of the proposal; if the informational deficiency could be reasonably corrected by relatively limited discussions, then inclusion of the proposal in the competitive range and discussions are in order. \* \* \*"

None of those circumstances is present in this case,  
so the exclusion of CLS's proposal was not unreasonable.

Protest denied.

*for* *Milton J. Fowler*  
Comptroller General  
of the United States