



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

REDACTED VERSION

Decision

Matter of: Lockheed Aeronautical Systems Company
File: B-252235.2
Date: August 4, 1993

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DIGEST

1. Protest alleging that award of contract for autopilot replacement systems was based on improper life cycle cost (LCC) evaluation is sustained where the agency's LCC evaluation neither evaluated the realism of, nor otherwise accounted for, the significantly differing assumptions upon which offerors' LCCs were based; as a result, the evaluation did not provide a basis for determining the probable ultimate cost to the government.
2. Protest alleging that agency improperly failed to evaluate option quantities for Foreign Military Sales (FMS) based on agency's internal estimate of "potential market" for FMS is dismissed as an untimely protest of an alleged solicitation defect, where solicitation provided that prices for FMS quantities would not be evaluated, and protester was aware of potential market for FMS sales.
3. Protest alleging that agency improperly gave extra credit to awardee in technical evaluation of flight control systems for its offer of a [deleted], an item not required

The decision issued on August 4, 1993, contained proprietary information and was subject to a General Accounting Office protective order. This version of the decision has been redacted. Deletions in text are indicated by "[deleted]."

by the solicitation, is denied; agency may properly give an offeror a higher technical rating for exceeding solicitation requirements.

DECISION

Lockheed Aeronautical Systems Company protests the Department of the Air Force's award of a contract to Chrysler Technologies Airborne Systems, under request for proposals (RFP) No. F09603-91-R-29604, for replacement of autopilot systems and other items in C-130 and C-141 aircraft. Lockheed alleges that the award to Chrysler was based on improper cost and technical evaluations.

We sustain the protest.

BACKGROUND

The solicitation, issued in October 1991, requested proposals for the design, development, integration, testing, and production of modifications to the all weather flight control direction system (AWFCS) and autopilot system for up to 148 C-141 aircraft, and modifications to the ground collision avoidance system (GCAS) and autopilot system for up to 672 C-130 aircraft. The solicitation contemplated award of a primarily fixed-price, incentive-type contract; it incorporated fixed-price, cost-reimbursement, and labor hour elements.

The RFP required offerors to submit proposals in four parts: technical, management, past and present performance, and cost. Technical factors were described as the most important considerations for award; management and cost were progressively less important, while past and present performance were to be given only general consideration and were not weighted evaluation factors. With respect to cost, the RFP provided for the evaluation of both the cost of acquiring the systems--that is, the cost of the basic requirement plus options--and the 20-year life cycle cost (LCC).

Based upon its evaluation of the initial proposals received in response to the RFP, the Air Force issued deficiency notices and clarification requests to the offerors. The agency subsequently amended the solicitation on several occasions, conducted further written and oral discussions with offerors, requested revised cost proposals, and finally requested (on January 15, 1993) best and final offers (BAFO). The source selection authority (SSA) then determined that Chrysler's BAFO offered the best value to the government, based on its [deleted] and [deleted]. Upon learning of the resulting (January 28) award to Chrysler, Lockheed filed this protest with our Office.

As discussed below, we agree with Lockheed that the agency's LCC evaluation was flawed, and sustain the protest on that basis. We find the remainder of the protest to be without merit.

LCC EVALUATION

Lockheed argues that the Air Force improperly failed to evaluate the realism of Chrysler's proposed costs when evaluating its LCC. According to Lockheed, Chrysler's LCC model contained inflated reliability figures for various components that resulted in an artificially low LCC. Had the Air Force considered the validity of the reliability figures, Lockheed concludes, Chrysler's proposed LCC and overall evaluated cost would have been higher than Lockheed's, and this may have affected the award decision.

The RFP required offerors to propose an LCC for a 20-year period using an Air Force-supplied computer program known as Program LCC. The program calculates LCC based on various data furnished by the offeror. Offerors were required to submit with their proposals the Program LCC output, as well as the supporting data; each offeror's Program LCC output would be used in the agency's calculation of total LCC. The RFP specifically stated that the government would verify each offeror's Program LCC output and supporting data before calculating the LCC. In addition, section M of the RFP generally provided that the cost proposals would be evaluated to determine whether:

"(2) Proposed costs are consistent with scope of proposal effort . . . , [and whether]

"(3) Costs are fully justified and documented, i.e., developed by using appropriate and acceptable methodologies, factual and verifiable data, estimates supported by valid and suitable assumptions and estimating techniques."

Reliability was a critical consideration in the calculation of LCC. Offerors were to propose an LCC based on various possible warranties, including a reliability improvement warranty (RIW) under which offerors were required to guarantee in their technical proposals the reliability of the system in terms of the mean time between removals (MTBR).¹ The guaranteed MTBR figures for each component were to be set forth on Logistics Factors Commitment Sheets to be submitted with the LCC information in the cost proposal; the

¹The Air Force explains that MTBR is derived by dividing the total functional life of a population of equipment by the total number of equipment removals within the population.

sheets would form a part of the awarded contract. In addition, the LCC model required offerors to furnish mean time between failures (MTBF) figures for each component.² Since the MTBF for a particular component effectively measures how frequently the component will be replaced, it is a key factor in estimating LCC.

Lockheed used MTBF figures in its LCC proposal that corresponded to the MTBR values that it guaranteed in its technical proposal and on its Logistics Factor Commitment Sheets. In contrast, Chrysler's LCC proposal relied upon much higher MTBF figures that were not based on the MTBR values it guaranteed in its technical proposal. For example, for the C-141, under the RIW option, Chrysler's technical proposal guaranteed an overall system MTBR of [deleted] hours, but its proposed LCC was based on an MTBF of [deleted] hours. Chrysler's higher MTBF had the direct effect of lowering its evaluated LCC significantly; Chrysler's LCC totaled \$[deleted] million, [deleted] of Lockheed's \$[deleted] million LCC.

Lockheed argues that the cost evaluation was flawed because Chrysler's LCC calculations were based on assumptions that the Air Force did not evaluate, resulting in a significant understatement of Chrysler's proposed cost. First, while acknowledging that MTBF is not the same as MTBR, Lockheed asserts that the LCC program instructions prescribed a formula for computing LCC MTBF such that the MTBF value should correspond to the guaranteed MTBR value. Lockheed contends that it was improper for the agency to allow Chrysler to base its LCC proposal on MTBF figures that were significantly out of line with the guaranteed MTBR values in the technical proposal.³

²MTBF, in contrast to MTBR, measures the frequency of equipment failures in a population rather than the frequency of removals. As a general rule, the MTBF should be longer than the MTBR since not all removals lead to a diagnosis of equipment failure.

³Lockheed also claims that Chrysler based its LCC proposal on MTBR figures that were unreasonably high. Lockheed alleges that Chrysler's proposed overall system MTBR for the C-141, [deleted] hours, is in error because certain system components were not considered in the calculation. This allegation is untimely, and therefore will not be addressed on the merits, as it was raised more than 10 days after Lockheed received the agency report upon which the allegation is based. See 4 C.F.R. § 21.2(a)(2) (1993). Since, however, we are recommending that the Air Force perform a new evaluation, we believe that the agency should
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Second, beyond its argument that Chrysler's MTBF figures were too high relative to its proposed MTBR figures, Lockheed contends that Chrysler's MTBF figures were unreasonably high as an objective matter. Specifically, Lockheed points to the required C-141 display unit lamp module, which both offerors priced at approximately [deleted]. Lockheed notes that Chrysler proposed an MTBF for this item of [deleted] hours, or [deleted], based on [deleted] operating hours per year. Chrysler thus predicted that the Air Force would have to replace only [deleted] lamp modules over the 20-year life of the entire C-141 fleet. In contrast, Lockheed's reliability estimate translated into replacement of [deleted] lamp modules over 20 years. The difference between Chrysler's and Lockheed's LCC as a result of Chrysler's higher MTBF value for this single item was more than \$[deleted] million. As another example, Lockheed points to Chrysler's MTBF figure for its proposed commercially available ground collision avoidance computer (GCAC). Although both Lockheed and Chrysler proposed to obtain the identical GCAC unit from the same vendor, Chrysler's proposed LCC was based on an MTBF value of [deleted] hours, [deleted] the [deleted] hours Lockheed used in its LCC proposal.

Finally, Lockheed argues that the Air Force's evaluation improperly failed to take into account that Chrysler's and Lockheed's MTBF figures were based on different assumptions concerning environmental temperature. The RFP required that both the C-141 AWFCs and C-130 GCAS systems be able to operate at temperatures between -54 degrees and 55 degrees Celsius. Although Chrysler's initial proposal was based on an assumed environmental temperature of [deleted] degrees Celsius, essentially the same assumption Lockheed used, Chrysler reduced the assumed environmental temperature in its BAFO to [deleted] degrees Celsius ([deleted] degrees Fahrenheit). As a result, Chrysler's overall MTBF for the C-141 system increased from [deleted] hours to [deleted] hours (and its MTBR increased from [deleted] hours to [deleted] hours). Largely as a result of the lower assumed temperature, Chrysler's BAFO LCC was reduced by \$[deleted] million.⁴

³(...continued)

review Chrysler's proposed system MTBR values for both the C-141 and the C-130 to ensure that they include all of the required elements and are based on reasonable assumptions.

⁴The record shows that even a 5 degree reduction in temperature, e.g., from 55 to 50 degrees Celsius, can increase MTBF by as much as 11 percent. Chrysler's reduction of its assumed operating temperature from 50 degrees Celsius in its
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The Air Force maintains that there was nothing improper in the reliability figures Chrysler used, since there was no RFP requirement that the projected MTBF values used in the LCC calculations be equal or similar to the guaranteed MTBR values in the technical proposal. The agency explains in this regard that the projected MTBF is based on the offeror's realistic expectation of how many failures will occur under normal operating conditions, while the guaranteed MTBR is the maximum number of removals that the offeror is willing to guarantee contractually. Since there were no other RFP limitations on the values selected by offerors, the Air Force asserts, Chrysler properly based its projected MTBF on permissible assumptions, including an environmental temperature of [deleted] degrees Fahrenheit, while it used more conservative, "worst-case" assumptions to determine its guaranteed MTBR figures for warranty purposes. The Air Force concludes that the evaluation of proposed LCCs was reasonable.

In conducting a LCC analysis, the agency must adhere to the guidelines set forth in the solicitation and perform the analysis in a manner such that the result bears a reasonable relationship to actual anticipated costs, and results in a reasonably accurate prediction as to which firm's proposal represents the lowest ultimate cost to the government. See Satilla Rural Elec. Membership Corp., B-238187, May 7, 1990, 90-1 CPD ¶ 456.

We find that the agency's LCC evaluation approach precluded an accurate assessment of LCCs. The record indicates that Chrysler's cost proposal did not include justifications or documentation supporting the variables on which its LCC was based, and that the Air Force accepted the BAFO LCC proposals of both offerors without examining the validity of the variables on which the LCCs were based.⁴ In particular, the Air Force's evaluation did not take into account the fact that the higher reliability figures on which Chrysler's anticipated costs were based bore no relation to the lower figures to which it contractually was committing itself; absent some technical justification for the grossly more favorable values in Chrysler's cost proposal (i.e., compared to the values used by Lockheed), we fail to see how the proposed LCC could have been properly

⁴(...continued)

initial LCC proposal to 25 degrees Celsius in its BAFO LCC proposal therefore dramatically affected its proposed LCC.

⁵The BAFO LCC proposals apparently were compared to the cost proposals to make sure the line item prices for each component were consistent; however, the reliability figures used in the BAFO LCC calculations were not reviewed.

evaluated. Nor did the evaluation reconcile the significant, unexplained differences in offerors' assumptions concerning the required lamp module and GCAC, or account for the differing temperature assumptions in comparing the proposed LCCs. This, despite the fact (neither the agency nor Chrysler asserts otherwise) that the systems presumably will be operating under the same environmental conditions irrespective of which offeror provides them.

By accepting without question Chrysler's (and other offerors') MTBF and temperature figures, the Air Force created a situation where it was faced with comparing "apples and oranges"; offerors' dramatically different unexplained, unevaluated assumptions resulted in cost figures that could neither be meaningfully compared nor assessed for purposes of determining the likely ultimate cost to the government. The evaluation therefore was inherently improper. See Sacilla Rural Elec. Membership Corp., supra; KISS Eng'g Corp., 65 Comp. Gen. 549 (1986), 86-1 CPD ¶ 425; Pikes Peak Water Co., B-211984, Mar. 16, 1984, 84-1 CPD ¶ 315.

Since Chrysler was the low priced offeror by \$(deleted) million under the evaluation, and the record indicates that a proper LCC evaluation could add in excess of \$(deleted) million to Chrysler's total cost, Lockheed could become the low offeror under a new evaluation. Although cost was the least important evaluation factor, this change obviously would necessitate a cost/technical tradeoff in selecting the proposal that represents the best value to the government. Thus, we conclude that the record establishes a reasonable possibility that Lockheed was prejudiced by the agency's improper LCC evaluation, and sustain the protest on this ground.

EVALUATION OF FMS OPTION

Lockheed contends that the Air Force improperly failed to evaluate option prices for Foreign Military Sales (FMS) quantities, even though the agency had estimated there would be \$(deleted) million of FMS items. The RFP required offerors to submit prices for C-130 production kits for FMS. As originally issued, the RFP asked offerors to furnish unit prices for 2 different quantity increments (for example, a price for 1 to 5 units and a price for 6 to 11 units); the RFP generally provided that total contract price would be evaluated by multiplying the unit price for each line item by the maximum incremental quantity for that line item. Amendment 15 to the RFP, however, changed the basis for evaluating the total contract price. Instead of multiplying the unit price by the maximum incremental quantities, the unit price would be multiplied by best estimated quantities

set forth in the amendment. For FMS items, the best estimated quantity was stated as zero. This effectively removed FMS quantities from consideration in the price evaluation, while preserving the possibility of option exercise.

Lockheed alleges that the agency's best estimate of FMS quantities--zero--was incorrect, and that it was prejudiced by the agency's failure to provide an accurate estimate. In this regard, Lockheed points to the Air Force's price competition memorandum, prepared shortly before the award and furnished to Lockheed in the agency report responding to its protest. The memorandum contains a government estimate for the total acquisition cost, not including FMS, and an estimate of the "potential market" for FMS sales (\$(deleted) million). According to Lockheed, this memorandum establishes that the agency's best estimated quantity of FMS kits was actually a number corresponding to the \$(deleted) million in expected sales, and that this estimate should have been used in the cost evaluation. Lockheed asserts that Chrysler's total price relative to Lockheed's would have increased by \$(deleted) million if the FMS quantities had been evaluated.

We find Lockheed's post-award protest to be an untimely challenge to the RFP amendment stating the agency's intention not to evaluate prices for the FMS option quantities. Although Lockheed did not obtain the price competition memorandum until it received the agency report, we think Lockheed had all the information it needed to protest the amendment setting forth an estimate of zero sales of FMS kits when the amendment was issued. Lockheed then possessed the same information as the agency regarding how many C-130 aircraft are owned by foreign governments. Given this knowledge, it is not apparent, nor has Lockheed suggested, why it should not have been aware of the "potential market" for FMS kits. Thus, when amendment 15 was issued, Lockheed knew the basis for protest--that the agency was acting unreasonably in assuming there would be no FMS sales for purposes of the cost evaluation--and was required to file that protest before the next closing date. 4 C.F.R. § 21.2(a)(1); SeaArk Marine, Inc., B-248755, Sept. 21, 1992, 92-2 CPD ¶ 193. Since it did not do so, we will not consider this aspect of the protest.

COST OF SUPPORT EQUIPMENT

Lockheed asserts that the Air Force improperly allowed Chrysler to designate certain items of depot-level support equipment as government-furnished equipment (GFE) in its proposal, even though the Air Force had expressly told Lockheed that no GFE was available. Lockheed, in accordance with the agency's stated position, proposed to furnish this

equipment at its own expense. In the course of reviewing Lockheed's protest, the Air Force decided to credit Lockheed with the cost (about \$(deleted) million) of three sets of automated test equipment--known as (deleted) stations--it had proposed, since Chrysler in fact had proposed the identical equipment as GFE. Lockheed, however, argues that the Air Force's corrective action was incomplete, as it failed to give Lockheed a credit of \$(deleted) million for two additional (deleted) stations it had proposed.

Lockheed's allegation is without merit. The record shows that there are at least two separate requirements for support equipment, including one for equipment to be used in the development of test program sets and interface test adapters, and another for post-development support. Both Lockheed and Chrysler initially proposed (deleted) stations as GFE to be used for both the development phase and field support; the agency informed both offerors during discussions that GFE was not available for the development requirement. As a result, Lockheed offered to purchase the (deleted) stations from another source, and Chrysler proposed to use a (deleted) emulator that a subcontractor had in its possession. Since Chrysler's proposal was not based on the use of GFE in support of the development requirement, and Chrysler therefore was afforded no cost credit in the evaluation for this equipment, there was no basis for giving Lockheed a price credit for the equipment.

TECHNICAL EVALUATION

Lockheed challenges the propriety of the Air Force's technical evaluation in several areas. As a preliminary matter, Lockheed alleges generally that the evaluation was improper because the Air Force employed a separate evaluation team for each offeror's proposal, and the teams were not operating under a single set of standards. According to Lockheed, this resulted in disparate treatment of the two offerors.

The record does not support Lockheed's allegation. While many individuals participated in the various aspects of the evaluation, the evaluation documents show that Lockheed's and Chrysler's proposals in fact were evaluated by the same individuals for the same factors. For example, one person prepared the evaluation summaries for both Lockheed and Chrysler under the engineering factor of the technical area; a different individual prepared the summaries for both firms under the reliability, maintainability, and producibility factor. Thus, both proposals in fact were evaluated from the same perspective. As discussed below, moreover, we find no merit to Lockheed's specific arguments concerning the evaluation results; there thus is no basis for concluding that the evaluators applied different standards in evaluating Chrysler's and Lockheed's proposals.

[deleted]

The Air Force gave Chrysler's proposal an enhanced rating under the integration factor of the engineering item (one of the two items considered under the technical area) because it offered a [deleted], a feature which was not required by the RFP. The agency viewed this proposed item as a strength because it provided a considerable benefit to the government and exceeded the solicitation requirements. Lockheed argues that it was improper for the Air Force to evaluate Chrysler's proposal based on a factor that was not included in the RFP.

While Lockheed correctly points out that all proposals must be evaluated based on identical, stated evaluation factors, its observation is misplaced here. The Air Force did evaluate the technical proposals based only on the stated evaluation factors; it merely gave Chrysler credit under one of those factors for exceeding the applicable RFP requirements. There is nothing improper in awarding an offeror a higher score for exceeding the solicitation requirements. Michael C. Avino, Inc., B-250689, Feb. 17, 1993, 93-1 CPD ¶ 148. We conclude that the evaluation in this area was proper.

Flight Testing

Lockheed challenges the Air Force's evaluation of the proposals as they related to the requirement for flight testing support. Lockheed argues that the agency acted improperly in assigning it the same technical rating as Chrysler in this area when it proposed an effort much greater in scope--and more expensive--than Chrysler's. Lockheed argues that if the evaluators had applied the same standards to both proposals, it would have earned a higher technical rating.

We have reviewed the proposals and evaluations in the area of flight testing and find no evidence of disparate treatment. Rather, we conclude that the record supports the evaluators' view that Lockheed's approach to the flight testing requirement was not superior to Chrysler's. While Lockheed's proposal was considered "very thorough" in some areas, it was found to be "extremely deficient" in others. For example, its approach to C-130 qualification testing and evaluation was considered deficient because it proposed to perform the testing on only one aircraft. In addition, Lockheed received a deficiency for its C-141 flight testing approach, which was not considered sufficient to ensure the operation of each AWACS subsystem both independently and in combination with other subsystems. Although Lockheed offered [deleted] hours of C-141 flight testing (while Chrysler, which was issued a clarification request in this regard, offered only [deleted] hours of testing), Lockheed's

deficiency was not related to the number of hours of testing proposed. Rather, the deficiency resulted from Lockheed's proposal to [deleted], such that [deleted] of the required tests would be performed on the display unit aircraft. Although Lockheed apparently did offer enhanced efforts under some of the flight testing requirements, the record provides us with no basis to conclude that the proposed enhancements outweighed the flight testing deficiencies such that Lockheed should have received a higher rating.

Other Technical Issues

Lockheed alleges the agency acted improperly in giving Chrysler evaluation credit for offering [deleted] in certain kits, known as Group A kits, for all C-141 aircraft, while not giving similar credit to Lockheed for offering the same thing. In support of its position, Lockheed points to one page in its proposal where [deleted] was referenced in a block diagram of Lockheed's proposed C-141 AWFC system. The diagram contains a box labeled [deleted]. However, our review of Lockheed's proposal reveals no discussion of this equipment, and Lockheed has pointed to none. We therefore find nothing improper in the agency's failure to rate Lockheed's proposal equal to Chrysler's in this area.

Lockheed likewise asserts that the Air Force improperly gave Chrysler evaluation credit for offering to [deleted] when installing the new systems in the aircraft, while not giving similar credit to Lockheed for its offer to [deleted]. Our review of the two proposals shows that the evaluation was reasonable because Lockheed did not make the same offer as Chrysler. Chrysler's proposal clearly stated that "the offeror proposes to [deleted]." In contrast, Lockheed's proposal stated only that:

"[deleted]"

This language, unlike that in Chrysler's proposal, does not state that any [deleted] will be "[deleted]." There thus was no basis for the agency to evaluate Lockheed as making the same commitment as Chrysler.

Finally, Lockheed alleges that the Air Force improperly failed to rate its proposal superior to Chrysler's in the area of required technical manuals. Lockheed offered to prepare manuals using a [deleted], which the Air Force recently adopted as its standard. Chrysler did not propose to use the new format. Lockheed argues that it should have been given credit in the evaluation for its more comprehensive approach.

The record does not support Lockheed's position. The evaluation sheets show that the evaluators did, in fact,

consider Lockheed's ability to prepare manuals [deleted] to be a strength of its proposal. As a result of this and other strengths, Lockheed received a rating of [deleted], under the logistics factor of the management area. Chrysler's proposal was also found to have strengths under the logistics factor (although not in the category of technical manual preparation), and therefore also received a [deleted] rating. We conclude that there was no disparate treatment here.

CONCLUSION

As discussed above, we sustain the protest on the basis that the agency neither evaluated the realism of, nor otherwise accounted for, the significantly differing assumptions upon which offerors' LCCs were based; this resulted in an evaluation that did not provide a basis for determining the probable ultimate cost to the government of the offers. We recommend that the agency reevaluate the offerors' cost proposals, including an examination of the reasonableness of the assumptions upon which offerors' proposed LCCs are based. If this reevaluation results in a different award determination, the Air Force should terminate Chrysler's contract for the convenience of the government and make award to the new successful offeror. We also find Lockheed entitled to reimbursement of its costs of filing and pursuing the protest, including reasonable attorneys' fees. 4 C.F.R. § 21.6(d). In accordance with 4 C.F.R. § 21.6(f), Lockheed's certified claim for such costs, detailing the time expended and costs incurred, must be submitted directly to the agency within 60 days after receipt of this decision.

The protest is sustained.

Comptroller General
of the United States