



**The Comptroller General
of the United States**

Washington, D.C. 20548

Decision

Matter of: Cardion Electronics--Request for
Reconsideration
File: B-218566.4
Date: January 27, 1987

DIGEST

1. General Accounting Office (GAO) affirms decision denying a protest that specifications for airport surface detection equipment unduly restricted competition when a GAO audit finds that the specifications were based on the procuring agency's needs for maintaining and enhancing airport safety.
2. General Accounting Office (GAO) affirms decision denying protest that capabilities required by specifications were beyond the state-of-the-art and involved severe risk where the protester fails to demonstrate that specifications were impossible to meet and a GAO audit finds that they pose no more than the manageable risks commonly accepted in the industry. Subsequent delays in the performance due to reasons unrelated to the specifications do not demonstrate their impossibility.
3. Protest that specifications were ambiguous is denied where the General Accounting Office finds no ambiguity and where in any case there is no showing of competitive prejudice.

DECISION

Cardion Electronics requests that we reconsider our decision in Cardion Electronics, B-218566, Aug. 15, 1985, 85-2 CPD ¶ 172. In that decision, we denied Cardion's protest against the terms and conditions of request for proposals No. DTFA01-85-R-06426, issued by the Federal Aviation Administration (FAA) for the supply and installation of an airport surface detection equipment system known as ASDE-3. We affirm our August 15 decision.

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BACKGROUND

As explained in our prior decision, the FAA uses ASDE, an airport ground surveillance radar, to provide air traffic controllers with information on aircraft and vehicles, either stationary or moving, located on or near airport run ways, taxiways, and aprons. The current system, ASDE-2, is 20-year old vacuum-tube system that suffers from serious maintenance problems and is nearly useless in heavy rain.

Accordingly, for a number of years the FAA has been developing specifications for a system capable of meeting its requirements for the next 20 years. It seeks a reliable system providing a clear, accurate, and bright presentation of aircraft and vehicles at or near movement and holding areas under all weather and visibility conditions. After first developing an engineering prototype in conjunction with Cardion and then, in 1982, drafting specifications, in 1984 the FAA issued the revised ASDE-3 specifications incorporated into the current solicitation.

In its protest to our Office, Cardion alleged that the ASDE specifications were unduly restrictive of competition because they either exceeded the FAA's minimum needs, were beyond the state-of-the-art, or could not be met within the specified delivery schedule. In particular, Cardion challenged requirements (1) that the ASDE-3 radar be capable of transmitting over a frequency range of 15.7 GHz to 17.7 GHz (Ku-band)^{1/}, rather than a narrower frequency range of 15.7 GHz to 16.2 GHz; (2) that a Remote Monitoring Subsystem at each FAA sector office continuously monitor the operational status and performance of ASDE, isolate 85 percent of all single failures to the replaceable circuit board and/or module level, and report the resulting data to the sector office; and (3) that the Display Processor Subsystem include certain features such as a split-screen display (in which the radar screen is divided into several display sections) and the capability to display data from a number of radars at the same airport on a single mosaicked display.

The FAA responded that these capabilities were required in order to meet its minimum needs over the next 20 years. Th

^{1/} GHz is an abbreviation for giga (1 billion) hertz (cycle per second). Transmission frequency is established by the number of cycles per second, and each transmitting system (e.g., a radio station) has its own assigned operating frequency or frequency range.

FAA contended that the flexibility of separate operating frequencies within the broad frequency range of 15.7 GHz to 17.7 GHz was necessary in order to reduce the potential for interference not only from current sources of electromagnetic emissions, but also from multiple ASDEs in the same area and from future enhancements to airport communications and surveillance equipment. The agency defended the requirement for remote monitoring capability as essential to its goal of meeting future facility maintenance requirements with a reduced work force. Finally, the FAA explained that the required display features had been selected in order to provide the flexibility and capability of handling expected airport traffic over the next 20 years.

In our August 15 decision, we concluded that the FAA had met its burden of establishing prima facie support for its contention that the restrictions it imposed were needed to meet its current minimum needs, as well as future requirements. We further concluded that Cardion had failed to show that the requirements were unreasonable.

On September 30, 1985, the FAA made award to United Technologies' Norden Systems, Inc. Subsequently, on October 18, the Office of the Inspector General, Department of Transportation, issued a report (No. AV-FA-6-002) on this procurement. While the Inspector General recognized that current ASDE-2 equipment is often ineffective during inclement weather and is expensive to maintain, he criticized the ASDE-3 procurement, primarily on cost-effectiveness grounds. The contract awarded to Norden provided for the procurement of 17 ASDE-3 units and afforded the government the option of ordering an additional 25 units at fixed prices. The Inspector General, however, pointed out that a 1982 cost-benefit analysis had indicated that installation of ASDE-3 units was economically justified for only 9 of the 23 airports surveyed.

The Inspector General also contended that the agency, by incorporating the enhancements into the specifications and failing to use off-the-shelf equipment, had imposed significant developmental risk and delayed delivery, since the current specifications had not been subjected to the same, extensive evaluation as that which preceded the 1982 specifications and had not been operationally tested.

The FAA challenged the Inspector General's conclusion concerning the cost-effectiveness of the ASDE-3 system and contended that he had taken a "short-sighted view of the safety ramifications of the program," which will provide "a

significant level of safety during periods of fog/rain and other inclement weather conditions and will assure appropriate separation [of aircraft and vehicles] at airports where vision from the tower cab is restricted by buildings or distance."

Accordingly, in October 1986, FAA exercised its option for additional ASDE-3 units.

GAO AUDIT

In view of the questions raised by the Inspector General, and acting pursuant to a congressional request, the Resources, Community, and Economic Development Division (RCED) of the General Accounting Office (GAO) undertook an audit of certain aspects of the ASDE-3 Procurement. Our auditors found that:

"... FAA's ASDE-3 operational requirements and specification were, in general, supported because they were based on FAA's mission needs as required by Office of Management and Budget (OMB) Circular A-109. GAO also believes that the specification was within industry state-of-the-art and, consequently, poses manageable and reasonable schedule and performance risks."

GAO, AIRPORT RADAR ACQUISITION, FAA's Procurement of Airport Surface Detection Equipment at 3 (RCED 87-18, Dec. 17, 1986).

In reaching these conclusions, the audit report noted FAA's findings that (1) the ability to employ frequency agility over the larger 2.0 GHz range is more effective than over the 0.5 GHz band in some conditions--for example, heavy rain or snow--in obtaining the required clutter-free display, and (2) the increased spectrum is needed to permit ease of frequency selection--tuning the ASDE to a different frequency within the 2.0 GHz band--where interference occurs with other transmitting devices such as military radars.

The report pointed out that FAA expects to save \$100 million annually when a remote maintenance monitoring capability becomes fully implemented; it agreed with the agency that it is cheaper to build this capability into the initial design, rather than to add it later. The report further pointed out that the capability for a split-screen display highlights the location of the target aircraft in relation to other aircraft

or key runway intersections by displaying two different views of the airport surface at one time on one screen. In addition, the report stated that a mosaicked display integrating the output of two radars into a single image results in a more sharply defined image of an aircraft that is at a great distance from the radar antenna or that is partially obscured by a structure or another aircraft.

With regard to the risks inherent in the specifications, it found that the specifications did not go beyond the state-of-the-art, compared favorably with Department of Defense specifications for airborne electronic equipment, and posed no more than the manageable risks commonly accepted in the industry. The report noted that a consultant from the Massachusetts Institute of Technology's Lincoln Laboratory had concluded in early 1985 that the majority of the features in the specifications could be found in operating radars and in the radar specifications of other civil aviation agencies. The report indicated that the technology for remote maintenance monitoring was generally available and that the computer programs necessary to support both split-screen and mosaicked displays were sufficiently developed so as to present little challenge to potential offerors. It also noted that Norden had been able to subcontract with two separate firms for a traveling wave tube offering the required frequency range at approximately half the expected cost.

Nevertheless, the report found that the display processor and remote maintenance monitoring systems still pose major risks because of uncertainties regarding software programming. Thus, for "reasons unrelated to the specification, namely staffing shortages and subcontracting delays," Norden faces production schedule slippage. Id. at 24.

REQUEST FOR RECONSIDERATION

In its request for reconsideration of its bid protest, Cardion restates many of its original arguments concerning FAA's minimum needs. We remain unconvinced by these arguments, which we discussed in detail in our prior decision and which we considered again in connection with the audit.

With regard to development risk, we note that Cardion itself admits that "most of the contested features have been demonstrated somewhere, and thus qualify as state-of-the-art." Although Cardion maintains that "combinations of these features can result in a formidable design task," the audit report found that the specifications posed no more than the

manageable risks commonly accepted in the industry. The fact that Norden now faces production schedule slippages due to reasons unrelated to the specifications does not demonstrate that the specifications are unreasonably risky or that compliance with them is impossible. As we have previously indicated, the fact that a solicitation may impose a risk does not render it defective, since some risk is inherent in most types of contracts. Offerors were expected to allow for such risk in formulating their offers. See Dyneteria, Inc., B-222773, Aug. 5, 1986, 86-2 CPD ¶ 157; Edward E. Davis Contracting, Inc., B-211886, Nov. 8, 1983, 83-2 CPD ¶ 541.2/

By means of its protest, Cardion seeks to redefine and reduce the FAA's needs for the next 20 years, thereby preserving any competitive advantage that it may have gained from its involvement in the development of the engineering prototype for the ASDE-3. In resolving protests under the Competition in Contracting Act of 1984, however, our duty is to determine whether the procurement statutes and regulations have been violated. 31 U.S.C. § 3554 (Supp. III 1985). It is not for us to determine the balance between cost and safety, or to substitute our judgment for that of the FAA. As we emphasized in our prior decision, our conclusions as to the required frequency range, remote maintenance monitoring, and display features in no way indicated that we had also concluded that the ASDE-3 specifications were the most cost-effective, efficient means by which the FAA could satisfy the requirement for an airport surface detection system. Moreover, the audit report found the FAA's benefit-cost methodology questionable, and it recommended changes to which the FAA has agreed.

In our bid protest decision, we held that Cardion had failed to carry its burden of proving that the specifications were defective under the procurement statutes and regulations. The conclusion resulting from our audit that the ASDE-3

^{2/} We recognize that Cardion, commenting on a draft version of the report, postulates several risks associated with Norden's use of a low-power transmitter to provide transmitting capability over a 15.7 to 17.7 GHz frequency range. The final report, however, specifically addresses this point, noting that the review of the ASDE-3 procurement did not identify low power as a significant performance risk. Moreover, to the extent that any risks exist, the final report indicated that Norden and FAA should be able to manage them successfully and thereby meet the specifications.

operational requirements and specification were based on FAA's mission needs confirms our prior bid protest decision in this regard.

Cardion, in its request for reconsideration, also challenges some of the other enhancements to the 1984 specifications. To the extent that Cardion is alleging that these specifications are unduly restrictive and exceed the FAA's minimum needs, we find the allegations untimely. Protests based upon alleged improprieties in a solicitation that are apparent before the closing date for receipt of initial proposals must be filed by that date. 4 C.F.R. § 21.2(a)(1) (1986). Accordingly, we will not consider Cardion's protest of the additional enhancements.

Cardion next questions the determination in our prior decision as to the untimeliness of its allegation that the required level of fault isolation under the remote monitoring system was ambiguous. Cardion first raised this ground of protest in its comments on the FAA's report. The audit report found that this alleged impropriety also had been apparent before the closing date for receipt of initial proposals, and we therefore dismissed it. Cardion now argues that the ambiguity was not apparent until it learned, after the closing date, that another offeror had interpreted the specifications to require a different level of fault isolation.

Turning to the merits of this argument, we are not convinced that the specifications were ambiguous. The audit report found that the specification concerning the required level of fault isolation was typical of the language used in similar system specifications and well understood in the industry, and that the specifications in general were clearly written. Moreover, since Cardion indicates that it prepared its proposal with the understanding that the remote monitoring system was required to isolate faults down to the circuit board or module level, the level which the FAA maintains was required and which the awardee offered to meet, we fail to see how Cardion was prejudiced by the alleged ambiguity. Cf. Analytics Inc., B-215092, Dec. 31, 1984, 85-1 CPD ¶ 3; Contact International, Inc.--Request for Reconsideration, B-210082.2, Sept. 2, 1983, 83-2 CPD ¶ 294.

Finally, Cardion seeks to recover the costs of preparing its proposal and of filing and pursuing its protest. Since, however, Cardion has failed to demonstrate that the award to

Norden did not comply with statute or regulation, we find no basis upon which to allow such costs. 4 C.F.R. § 21.6(d).

Our prior decision is affirmed.

Harry R. Van Cleve
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General Counsel