Board of Contract Appeals

General Services Administration
Washington, D.C. 20405

PUBLIC VERSION

October 6, 2000

GSBCA 15383-FAA
(FAA ODRA Docket Number 00-ODRA-00159)

NORTHROP GRUMMAN CORPORATION,
Protester,

v.

FEDERAL AVIATION ADMINISTRATION,
Respondent,

and

SENSIS CORPORATION,
Intervenor.

Kevin P. Mullen, Richard P. Rector, and Andrew M. Price, of Piper Marbury Rudnick & Wolfe, LLP, Washington, DC; and James Carlsen, Northrop Grumman Corporation, Baltimore, MD, counsel for Protester.

Sybil Baird, Office of the Chief Counsel, Federal Aviation Administration, Department of Transportation, Washington, DC, counsel for Respondent.

William H. Butterfield, Brian Cohen, and Lawrence M. Prosen of Bell, Boyd & Lloyd, Washington, DC, counsel for Intervenor.

HYATT, Board Judge, acting as Special Master.

Background

On July 24, 2000, Northrop Grumman Corporation (Northrop) filed a protest challenging the terms of solicitation number DTFA01-00-R-00040, issued by the Federal Aviation Administration (FAA), for the acquisition of Airport Surface Detection Equipment, Model X (ASDE-X). Northrop asserts that the inclusion of a requirement for active interrogation multilateration is overly restrictive, exceeds the agency's minimum needs, and will result in a de facto sole source procurement from Sensis Corporation, which, according to Northrop, is the only contractor currently capable of providing a compliant multilateration system. Northrop contends that the FAA should mitigate this overwhelming competitive advantage either by removing the multilateration requirement from the procurement and adding it later or by procuring the multilateration component of the ASDE-X system separately and providing it as Government-furnished equipment (GFE).

For its part, the FAA opposes Northrop's position, contending that its preference for a total system procurement approach is justifiable and rationally based. The FAA maintains that an adequate potential for competition in this procurement was reasonably determined to exist based on the information available to it at the time it proceeded. Although Sensis has in place a demonstrated test system that meets many of the solicitation's multilateration requirements, like all the other competitors, Sensis would still have to [REDACTED]. After reviewing available information, the FAA concluded that there were other companies that, with a reasonable amount of investment in development, could compete against the Sensis product. Three companies, including Northrop, responded to the initial request for preliminary proposals, all asserting that they had the ability to meet the multilateration requirements within a time frame that exceeded the FAA's proposed schedule. At this point, the FAA contends, the importance of ensuring a single source of accountability for successful completion of interfaces and integration of components, and adherence to the schedule, outweighs any benefit that might be obtained by broadening competition among radar systems. Thus, the FAA maintains that the Acquisition Management System (AMS) does not require it to carve up the procurement simply to make Northrop's participation more convenient and financially attractive.

After the protest was filed, the FAA's Office of Dispute Resolution for Acquisition denied a motion to dismiss the protest as untimely filed and authorized limited discovery. Pursuant to an interagency agreement, on August 14, 2000, the FAA asked the General Services Administration Board of Contract Appeals to make available a Board judge to act as Special Master in this protest. The FAA's report, accompanied by five notebook binders of documents, was filed on August 24, 2000. A hearing was held on September 12 and 13,

2000.[1] On September 23, 2000, the parties submitted post-hearing comments to the Special Master. For the reasons stated below, it is recommended that the protest be denied.

Findings of Fact

Overview of Runway Incursion Problems

1. The ASDE-X acquisition is an FAA initiative to deploy a surface surveillance system that will serve to reduce the increasing numbers of runway incursions and surface incidents taking place at the nation's airports. A runway incursion is defined as "an occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off, intending to take off, landing, or intending to land." Agency Report, Exhibit 1 at 3. A surface incident is defined as "an occurrence other than an accident associated with the operation of an aircraft, which affects or could affect the safety of operations." FAA Order 8020.11. The increasing pace of air traffic in recent years, coupled with the expansion of airports, requires the development of additional safety measures, particularly to address situations in which visibility is degraded, such as in rainy conditions or at night. Instances of runway incursions and surface incidents have increased substantially in recent years. Reducing this this problem with updated technology is a top priority for the agency. Agency Report, Exhibit 1.

2. To monitor surface traffic at airports, the FAA currently uses radar equipment provided under the Airport Surface Detection Equipment - Model 3 (ASDE-3) program. ASDE-3 provides surveillance and tracking of aircraft and vehicular movement overlaid on a ground map of the airport surface. The data is displayed on a monitor located inside the tower cab and provides the air traffic controller a visual aid that assists in tracking and sequencing of targets. ASDE-3's are being supplied under a contract between the FAA and Northrop and currently are being installed at many of the busiest airports in the country. To supplement ASDE-3, the FAA will deploy another system -- the Airport Movement Area Safety System (AMASS) -- which functions as a conflict alert system by combining data from the ASDE-3 and the Aircraft Surveillance Radar Model 9 (ASR-9) to predict potential traffic conflicts and incursions. The AMASS contractor is also Northrop. Agency Report, Exhibit 8 at 108-09. These programs are nearing completion now. Transcript at 28-29, 126.

3. The systems currently installed at airports rely on a primary radar, which detects metal. The controller sees dots on a display, with no identifying criteria. The dots could be aircraft or other reflective targets such as hangars or trucks. When the controller sees two dots converging, there is no effective way to identify the dots. ASDE-X is intended

[1] The citations herein are to the agency report and to the forty-four exhibits accompanying that report, to the transcript from the hearing, and to the supplemental hearing exhibits submitted by each party.

to allow for tagging and identification of aircraft to assist the controllers in safely directing surface traffic. Transcript at 117-18, 471-72.

4. To supplement radar capabilities and to enhance surface safety, the FAA has, for many years, explored the feasibility of using and expanding multilateration, a technique for performing surveillance by using time of arrival of radio frequency signals emitted from transponder-equipped targets within a system's area of coverage. Under the multilateration concept, a number of receivers are positioned around the airport surface to intercept messages that are being transmitted from individual aircraft beacons.[2] With multiple stations receiving signals from the same transponder, a triangulation calculation can be performed to pinpoint the position or location of an aircraft or vehicle. This is essentially a passive multilateration system, and requires only a receiver to listen for transponder transmissions. In order to gather further information about an aircraft or vehicle or to obtain data from aircraft that are not emitting signals to the passive system, an additional feature, active interrogation, is needed. An active interrogation system is one in which a transmission is sent to a target transponder, thereby activating a response from that transponder, permitting identification, or tagging, of a vehicle or aircraft. This system requires a transmitter and a receiver. Transcript at 35-37, 378-79, 466-75.

5. Beginning in the 1970s, the FAA began to award a series of contracts to develop solutions to the problem of runway incursions. Multilateration, which is not a new technology, was demonstrated as early as 1970. Protester's Hearing Exhibit 3. These efforts led to an award, in 1998, of the Air Target Identification System (ATIDS) contract to Sensis, a small business located near Syracuse, New York. The ATIDS award was made under a competitive procurement in which Sensis and Harris Corporation both offered viable technical approaches to the multilateration features desired by the FAA. The purpose of this award was to verify that the FAA's specification for multilateration was technically feasible. Transcript at 432-33. Under the ATIDS research and development contract, Sensis developed, produced, and installed a stand-alone ADS-B multilateration system at the Dallas-Fort Worth airport. The multilateration sensor uses active interrogation technology. This unit is a research and development system that is leased by the agency but is [REDACTED]. Transcript at 432.

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[2] Aircraft are generally equipped with Mode A, Mode C (sometimes ModeA/C), or Mode S transponders. Mode S transponders are installed on larger aircraft (nineteen or more seats), which are required to be equipped with traffic collision avoidance systems (TCAS). Mode S transponders continually emit a signal that allows for identification of the aircraft's position, but does not actually tag, or identify, the aircraft. Thus, the multilateration system must interrogate the Mode S transponder to determine the airline and flight number. The older transponders, Mode A and Mode C, do not emit any signal, and must be actively interrogated to determine both position and aircraft identity. Transcript at 467-73.

6. In May 1998, the FAA issued a formal mission need statement, recognizing the need to improve the ability to track aircraft and ground vehicular movements, particularly at congested airports. In formulating its mission need statement, the FAA concluded that it needed a surface surveillance capability equivalent to what existed operationally in the airborne phases of flight. The process included an evaluation of existing technology previously evaluated by the FAA as information to be reviewed and considered in preparing a requirements document. Currently, the FAA uses multiple sensors to capture target identification and position while aircraft are flying. On the surface, however, the FAA presently relies on a single sensor -- primary radar. Finding 3. More is needed to give the controllers adequate information to prevent accidents. Agency Report, Exhibit 1.

History of ASDE-X Requirement

7. In appropriating funds to the FAA for fiscal year 2000, Congress noted the urgent need to expedite the acquisition of technology capable of addressing the worsening problem of runway incursions and stated its expectation that by the end of fiscal year 2000 the FAA would have awarded "at least one contract for production low-cost ASDE systems for deployment in the highest priority airports." Agency Report, Exhibit 2, at 34.

8. On September 30, 1999, the FAA approved a "Requirements Document for Airport Surface Movement Enhancement and Runway Incursion Prevention" or for "Airport Surface Detection Equipment System (ASDE-X)." The requirements document was intended to transform the need identified in the mission need statement into general requirements addressing various concerns such as performance, supportability, physical and functional integration, human integration, security, test and evaluation, implementation and transition, quality assurance, configuration management, and in-service management. This document described the need for a system-wide, multifaceted strategy to prevent incidents and accidents attributable to runway incursions. The document recognized that an ASDE-X system, with the capability of integrating data collected from various sensors, would improve the air traffic controller's situational awareness and ability to monitor aircraft and vehicle movements at busy airports. Agency Report, Exhibit 3.

9. The requirements document approved by the FAA is not a specification. It reflects the process by which a team of specialists -- in this case, air traffic professionals -- reviews the need and develops a document setting forth top level concerns that need to be addressed. The requirements document for ASDE-X notes a variety of technologies that might be adapted and used to meet the need for improved surface surveillance capability. Ultimately, the requirements document is intended to be converted to a specification expressed in engineering terms. The requirements document serves as the vehicle to conduct an in-depth review of each requirement in the program so that the specification reflects the intent of the requirement. Agency Report at 13, Exhibit 3.

10. In November 1999, the FAA Associate Administrator for Research and Acquisitions convened a meeting of senior FAA personnel at the Dallas-Fort Worth airport to view a demonstration of the ATIDS equipment at this location. The meeting was attended by air traffic and logistics personnel, union representatives, members of the ASDE-X product team, the ASDE-X contracting officer, and members of the ASDE-X technical team. The purpose of the meeting was to arrive at a consensus on the technologies to be procured for the ASDE-X system. At that meeting, the attendees concluded the system should be composed of a radar, a multilateration system, a processor, and a display. Agency Report, Exhibit 4; Transcript at 403, 412.

11. After the FAA determined what the system would include, the FAA engineers and contracting staff met to consider appropriate procurement strategies. During this process, they considered whether a sole source acquisition was appropriate, whether to provide any products as GFE, and whether it was advisable or necessary to rely on a single prime contractor. After evaluating the available information, the contracting officer concluded that Sensis could not be justified as a sole source for the multilateration technology. Transcript at 292-93, 309. The contracting officer then considered whether the components were sufficiently of a "plug-and-play" nature as to justify furnishing the multilateration equipment as GFE.[3] The FAA's ASDE-X technical officer, an electronics engineer, explained that the ASDE-X components interface in a more complicated fashion than simply "plug-and-play" – the components have to communicate with one another. It would not be possible to just buy the box and assume it would work in the FAA environment without further technical integration development efforts. FAA Hearing Exhibit G at 25. The contracting officer described prior experiences with the GFE approach, in which use of GFE delayed contract performance and ultimately gave rise to delay and disruption claims.[4] Using a contractual provision to shift responsibility to the ASDE-X contractor would not necessarily avoid adverse consequences and added risk of using a GFE approach, he said. The contracting officer envisioned problems with coordination of maintenance manuals, acceptances, design reviews, and training. Since the FAA does not actually own any of the multilateration equipment or associated documentation called for under the ASDE-X procurement, it would be required to conduct a separate, presumably competitive, procurement to acquire these items. In the judgment of the contracting officer, this would impact the schedule, causing more delays than would be expected with a single contractor. FAA Hearing Exhibit G; Transcript at 502-04.

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[3] "Plug-and-play" refers to electronic systems that can be purchased and plugged onto other electronic boxes or systems to work properly, like a television set and a VCR. Transcript at 437.

[4] The contracting officer also pointed out that there can be integration problems with two different contracts even when the contractors are the same, noting that the FAA had experienced difficulties in integrating AMASS equipment into the ASDE-3 systems. FAA Hearing Exhibit G at 23.

Market Survey

12. On December 2, 1999, the FAA posted a public announcement/market survey on the FAA Contract Opportunities Internet web page to communicate to interested contractors the agency's plan to acquire ASDE-X systems under a competitive procurement for the award of a cost plus fixed fee contract for two to three systems. The announcement stated that the market survey was intended to engage industry in a dialogue with the FAA concerning the plan to acquire ASDE-X systems, so as to allow industry adequate time to form teaming or subcontracting arrangements, to elicit feedback regarding the feasibility of the planned approach, and to gauge interest in the program.. The announcement informed readers that the ASDE-X system was to provide real-time seamless surface surveillance, including identification, or tagging, of airport operational areas to air traffic controllers, and to have the potential for expansion. The announcement further stated that:

> FAA is defining the ASDE-X system as a radar, a processor, an ADS-B [Automatic Dependent Surface Broadcast]/ multilateration sensor, and a display. The data from the radar and multilateration sensor is to be fused together for presentation on the display. Safety logic and conflict alerts may be added at a later date. The ASDE-X system shall also have the capability for each sensor, e.g., radar or ADS-B/multilateration, to operate and be displayed independently. The system shall have the capability to be expanded to include other sensors such as ASDE-3. The processor shall be capable of receiving multiple inputs in Asterix and CD-2 formats.

Agency Report, Exhibit 5.

13. The December 2 announcement elicited sixteen responses, including one from the protester. Northrop responded to the public announcement in a letter dated December 15, 1999, expressing an interest in participating in the acquisition and stating that the FAA's "proposed approach is feasible." Northrop further observed, however, that competition with respect to the multilateration component of ASDE-X could be limited to one or two companies with available existing production systems. Northrop noted that if these companies entered into exclusive teaming arrangements, the level of competition for other components would be similarly restricted. [REDACTED] which produces radar systems, but not multilateration systems, made a similar suggestion. In contrast, Sensis proposed that the FAA should carve out radar and procure a multilateration system. Most of the responding companies expressed interest in the procurement and thought the FAA's approach was technically achievable. Agency Report, Exhibits 6, 7, 38.

14. The [REDACTED] Corporation, a [REDACTED] business located in [REDACTED] also responded to the market survey. For its part, [REDACTED] stated that it

offers [REDACTED] Agency Report, Exhibit 38. [REDACTED] also provided the FAA with a brochure describing its [REDACTED] multilateration system. In explaining how the [REDACTED] system tracks aircraft that are out of range or out of view, the brochure states:

> Mode S transponders transmit a signal once per second whether or not they are interrogated by a ground based radar. Mode A/C equipped aircraft respond to interrogations from nearby TCAS equipped aircraft without being interrogated by a ground based radar. [REDACTED] can be used for either active (interrogating) or passive (non-interrogating) aircraft tracking.

Agency Report, Exhibit 35 at 2018.

15. After reviewing the responses to the Market Survey, the FAA was convinced that, while no one company could provide the entire system, adequate competition existed for all significant components. Transcript at 347-56.[5] The FAA considered separating out parts of the package, but again rejected this piecemeal approach because of the potential for and risk of delays and technical problems in interfacing the various systems. Providing GFE would place a constraint on system design that would not otherwise be faced by the prime contractor. Using one contractor as the prime would reduce schedule dependencies and the concomitant risk of delays. In the agency's judgment, availability, reliability, and maintainability would all be adversely affected by splitting the procurement. Given the safety issues and urgent need to install reliable systems in a timely manner, the FAA concluded it was important to hold one contractor fully responsible for the success of the program. Transcript at 441-46; Agency Report, Exhibit 31.

Northrop's Efforts to Locate a Multilateration Subcontractor

16. Once it had determined it wanted to pursue this opportunity, Northrop began to approach potential multilateration providers to determine if a teaming or subcontracting arrangement could be achieved. Beginning in December, Northrop talked to a number of companies that potentially had multilateration capabilities, including Sensis and [REDACTED]. Transcript at 56. Sensis initially appeared receptive to the possibility of a teaming arrangement with Northrop, but ultimately elected to proceed as a prime contractor itself and team [REDACTED] with [REDACTED] for the radar products and technology

[5] In addition to Sensis and [REDACTED], the FAA was aware that [REDACTED] had been interested in the ATIDS procurement and might have a continuing interest in developing this technology. The agency was also aware of European companies with multilateration capabilities. Transcript at 347-48, 354.

needed for ASDE-X. Sensis informed Northrop of its decision in late February 2000. Transcript at 51-54.

17. Northrop's concurrent discussions with [REDACTED] led to a proposal from that company [REDACTED]. Northrop's manager for Domestic Air Traffic Control Programs testified that Northrop's exploratory discussions with [REDACTED] revealed that [REDACTED] had an existing capability for passive multilateration but that the company was not interested in expanding its capabilities to meet the active capabilities that would be required under the FAA's ASDE-X procurement. Transcript at 55-56. After considering this possibility, Northrop decided that it [REDACTED]. Transcript at 57-59. [REDACTED] offer [REDACTED].[6]

18. Northrop also contacted [REDACTED], [REDACTED] and [REDACTED]. Northrop believed that [REDACTED] and [REDACTED] had some multilateration-type capabilities. Neither [REDACTED] nor [REDACTED] responded to Northrop's inquiries, however. [REDACTED] engaged in discussions with Northrop, but did not have the active interrogation capability and was not interested in pursuing this program with Northrop. Transcript at 75-77.

19. [REDACTED] company with expertise in multilateration, also responded to Northrop's inquiry about multilateration. [REDACTED] had a passive system in operation at Prague's airport. Northrop pursued fairly detailed technical discussions with [REDACTED] and determined that [REDACTED]'s expertise was limited to passive systems. Although [REDACTED] had no plans to develop an active system on its own, it was willing to work with Northrop if Northrop opted to develop its own expertise and capability in active interrogation to augment the [REDACTED] product. Transcript at 78.

20. On February 2, 2000, FAA posted another public announcement to alert offerors that a screening information request (SIR) was projected to be issued shortly thereafter, in mid-February. The announcement included a list of the sixteen vendors that responded to the December market survey, informed prospective offerors of a late February industry demonstration of multilateration efforts currently in progress at the Dallas-Fort Worth airport, synopsized the planned procurement approach, and solicited comments on the proposed schedule. Attached to the announcement was a copy of the ATIDS system performance requirement. The announcement further explained that the purpose of the SIR would be to determine which offeror or offerors would be most likely to receive the award. From responses received to the SIR, the FAA planned to winnow the competition by down-

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[6] In its hearing exhibits, Northrop submitted a declaration from the president of [REDACTED], explaining that company's decision not to seek the ASDE-X business:

[REDACTED

selecting the offerors most likely to have a chance to win the award. Down-selected offerors would receive a draft specification and statement of work, along with draft contract provisions, to enable them to begin to put together more detailed proposals. After conducting discussions and reaching agreement on a specification and model contract, a request for offers (RFO) would be issued to the down-selected offerors. Agency Report, Exhibit 7.

21. Northrop responded to the February 2 announcement in a letter dated February 14. In this letter Northrop stated that it understood the criticality of the schedule and further suggested that [REDACTED].

Agency Report, Exhibit 9 at 0000139-41. Northrop's Manager for Domestic Air Traffic Control Programs testified that this letter was simply intended to suggest that since many of the elements of ASDE-X were readily available, the Government could procure and combine these components to achieve the desired system. Transcript at 252.

The Screening Information Request

22. On February 17, 2000, the FAA issued both the Requirements Analysis and the initial SIR for the ASDE-X acquisition, setting forth the criteria to be used in down-selecting offerors likely to qualify for an award. The criteria included comprehensive technical details for all components of the system, including radar, multilateration, and fusion, to enable the FAA to evaluate whether potential offerors had the ability to produce the ASDE-X system. Responses to the SIR were initially scheduled to be submitted on March 15; the due date was subsequently extended to March 20. Agency Report, Exhibits 11, 13.

23. In response to the SIR, the FAA received proposals from Northrop, [REDACTED] and Sensis. Sensis had entered into a [REDACTED] teaming agreement with [REDACTED] and was proceeding as the prime contractor; Northrop and [REDACTED] also entered into arrangements with other companies in order to provide the full scope of technologies required. All three proposals provided for some form of multilateration with active interrogation capability. Agency Report, Exhibits 14-16.

24. At the time it responded to the SIR, Northrop stated that it was subcontracting with [REDACTED]. Northrop took no exception to the terms of the SIR and represented that it could easily achieve the FAA's desired schedule. Northrop's submission described a multilateration system with active interrogation capabilities. Northrop further suggested that [REDACTED]. Agency Report, Exhibit 15.

25. Upon receipt of responses to the SIR, the FAA source selection evaluation panel (SSEP) reviewed the responses in light of the offerors' written technical and business capability claims in order to arrive at a down-select decision. A final evaluation was prepared. The SSEP concluded that the Sensis/[REDACTED] response to the SIR was technically superior to those of Northrop and [REDACTED]. To confirm that Sensis was not in a superior position solely because of its multilateration experience, the SSEP performed a sensitivity analysis in which it gave equal scores to all three competitors in multilateration. Sensis was still ranked ahead of the other two offerors. Based on its evaluation, the panel narrowed the field to two offerors -- Northrop and Sensis. [REDACTED] had offered a technically feasible solution, but was eliminated due to logistics and implementation problems.[7] Agency Report, Exhibit 18.

26. On April 7, 2000, the FAA published the completed ASDE-X specification on the Internet and furnished it to the two down-selected offerors. Agency Report, Exhibit 17.

27. On April 27, 2000, the FAA issued another public announcement reporting that, based on responses received to the SIR, discussions on the ASDE-X program would continue with Northrop and Sensis. A draft statement of work and associated documentation was attached to the public announcement for informational purposes. Agency Report, Exhibit 19.

28. On April 20, 2000, Northrop's Vice President of Airspace Management Systems, Electronics Sensors and Systems Sector, wrote to the FAA's Associate Administrator for Research and Acquisitions and set forth Northrop's concerns about the acquisition approach adopted for the ASDE-X procurement. In this letter, Northrop stated that only Sensis could meet the multilateration requirement for ASDE-X, and that the competition was thus biased in favor of Sensis. Northrop suggested that the FAA should procure multilateration separately and furnish it to the winning contractor. Agency Report, Exhibit 20.

29. On May 5, 2000, the FAA held a debriefing with Northrop to present the results of the SIR evaluation process. At that meeting, Northrop expressed concern with the the FAA's approach in bundling radar and multilateration in one acquisition. Northrop suggested that a better approach might be to provide multilateration as GFE. The FAA explained its position that carving out multilateration would attenuate the substantial performance and schedule benefits derived from having one prime contractor responsible for integrating and supporting all components of the system. Agency Report, Exhibit 21.

30. During the debriefing, the FAA informed Northrop that it was in [REDACTED] place and that its proposal was not dominant in any technical area. In

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[7] [REDACTED] Agency Report, Exhibit 14, at 298.

addition, Northrop's proposal represented the [REDACTED] cost of the three responses received to the SIR. Although Northrop indicated to the contracting officer that it was considering a protest, it did not formally protest at that time. Agency Report, Exhibit 21; Transcript at 371.

31. On May 15, 2000, the Associate Administrator for Research and Acquisitions responded to Northrop's letter dated April 20. He explained that the ASDE-X procurement strategy is to procure a complete system and that "[b]ased on FAA requirements, neither the radar nor the multilateration sensor individually meets the full requirement for surveillance and identification of airport surface targets." Additionally, "procurement of a full system reduces FAA risk by placing the task of system integration on the contractor." Agency Report, Exhibit 22 at 0000975. The Associate Administrator pointed out that the FAA technical team had attended the debriefing held on May 5 for the purpose of working with Northrop to tailor specifications to the extent possible to address Northrop's concerns. The Northrop team was not in a position at that time to discuss the specification. Finally, the Associate Administrator stated that the technical team continued to be available to address any concerns. Id. at 0000976.

32. On May 19, 2000, the contracting officer wrote a similar letter to Northrop, extending an offer to work with it to tailor requirements in the RFO. Agency Report, Exhibit 23.

33. On May 22, 2000, Northrop responded to the Associate Administrator, stating its understanding that since tailoring cannot be permitted to impact functionality, this approach would not solve its problem with the multilateration specification. Northrop repeated its opinion that competition could best be preserved by deferring the acquisition of multilateration capability or, alternatively, by furnishing Sensis equipment to all offerors as GFE. Agency Report, Exhibit 24.

34. During May and June 2000, Northrop again approached [REDACTED] hoping to convince that company to participate in the ASDE-X procurement. At that time, and subsequent to the earlier discussions held in February, [REDACTED] had been awarded a contract to provide a multilateration test system for the [REDACTED] airport in [REDACTED]. [REDACTED] was still unreceptive to participating in the ASDE-X procurement, again stating that Sensis had the inside track. In particular, [REDACTED] considered that it trailed the Sensis system significantly in active interrogation features and in whisper-shout capabilities.[8] Transcript at 66-70.

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[8] In the surface environment, with numerous aircraft and various ground vehicles in close physical proximity, active interrogation can result in the provision of multiple responses from numerous aircraft which are received simultaneously. Whisper-shout capability is a technology that methodically adjusts the interrogation power supply to ensure that multiple responses received in the airport environment are robust and reliable.

35. On June 6, 2000, the FAA issued the Request for Offers (RFO). Agency Report, Exhibit 26. The RFO specified desired delivery dates, but did not contain a mandatory schedule. Multilateration was accorded 9 evaluation points out of a total of 100 in the RFO. The RFO was accompanied by a performance specification for the ASDE-X system. The specification does not require any particular architecture or design for any of the components required to be delivered. Agency Report, Exhibits 26, 27; Transcript at 465-66.

36. About a week later Northrop conducted an internal review of the RFO criteria using a chart that attempted to predict the company's chances of achieving award. In assessing the strengths and weaknesses of Northrop's proposal, Northrop assigned a [REDACTED]. Northrop recognized, in assessing the RFO and evaluating the prospects for a successful protest, that "the RFO schedule arguably allows competitors the time to complete development work necessary to satisfy the multilateration requirements."[9] Intervenor's Hearing Exhibit 11.

37. Northrop did not submit a proposal in response to the RFO.

38. In August 2000, Northrop and [REDACTED] teamed to bid on an ATIDS-type procurement for the National Aeronautics and Space Administration (NASA). FAA Hearing Exhibit A. This procurement is for an ATIDS Dynamic Runway Occupancy Measurement System (DROMS) unit to be installed at the Detroit Metro Wayne International Airport. The specification is for a research and development effort not unlike the Sensis contract at DFW. Although the specification set forth in the DROMS statement of work is shorter than the

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Transcript at 66-67.

[9] The FAA engineer noted in his testimony that, in his opinion as an engineer, development of an active interrogation capability to complement an existing passive system would not be particularly difficult. The active interrogation feature is already developed and used in existing TCAS systems. Little more is required than to build or purchase the boxes used by these TCAS systems and to design an appropriate interface. A standard interface is available for the TCAS systems. In his opinion, a company with passive multilateration systems should be able to upgrade to active interrogation capability in a reasonably short period of time -- six months or less. Transcript at 474-78.

comparable ASDE-X specification for multilateration, the FAA engineer compared the two sets of requirements and concluded that the requirements are in fact very similar from a performance and functionality perspective. In fact, he determined that for five of nine key requirements – coverage volume, approach coverage, accuracy, factory acceptance schedule and site acceptance schedule -- the NASA requirements were stricter than those of the FAA.[10] FAA Hearing Exhibit A; Transcript at 459. Thus, any company that could compete for the DROMS award, should have the ability to compete under ASDE-X as well. One of the reasons the FAA specification is longer is because it seeks an airport operational unit which must meet security, environmental, and other requirements not applicable to a test ATIDS unit like the one at the Dallas-Fort Worth airport. In addition, many of the specification items are for optional features, such as whisper-shout capability, or for future enhancements. Agency Report, Exhibit 26; FAA Hearing Exhibit A; Transcript at 459-62.

39. The president of [REDACTED] addressed the [REDACTED] and NASA/DROMS procurements in his declaration:

> Since its decision to forego the ASDE-X procurement, [REDACTED] has continued to develop its multilateration capability. [REDACTED] has been awarded a contract to implement a multilateration system at the [REDACTED] in [REDACTED]. [REDACTED]. [REDACTED] has been awarded a contract by [REDACTED] for a multilateration system to be implemented at [REDACTED] Airport. That system incorporates active interrogation [REDACTED] also has offered to provide an ATIDS-like system to NASA under the NASA DROMS procurement. For the NASA DROMS procurement, [REDACTED] proposes to implement a system with an active interrogation capability. The system proposed for the NASA DROMS program will satisfy the basic performance requirements for ASDE-X, [REDACTED].

Protester's Hearing Exhibit 4, Smith Declaration, at P0131. The FAA engineer testified that the ASDE-X specification is a performance specification that does not require, or limit offers to, any particular type of multilateration sensor architecture. Transcript at 466.

40. On August 24, 2000, Northrop filed its protest, asserting that the inclusion of the multilateration requirement in the RFO created a de facto sole source procurement and

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[10] Both specifications called for multilateration with active interrogation with a one second update rate. In addition, with respect to schedule, the DROMS solicitation required a site acceptance test at 180 days compared to 515 days under the ASDE-X specification. FAA Hearing Exhibit A.

that the agency's refusal to separate out the multilateration requirement was not rationally related to its minimum needs.

41. Both the FAA and Sensis filed motions to dismiss the protest as untimely filed, pointing out that the technical requirements forming the basis for the protest were known to Northrop before the closing date for receipt of responses under the initial SIR. Northrop opposed the motions, arguing that until the RFO was issued it was not clear that multilateration would remain in the final specification and that the RFO was the first solicitation document to contain a definitive specification requirement for multilateration with active interrogation. In addition, the actual schedule requirements and the precise evaluation criteria, and weighting, were not known to Northrop until issuance of the RFO. The FAA's Office of Dispute Resolution for Acquisition (ODRA) denied the motions, reasoning that Northrop had timely objected to its inability to compete based on the final specifications together with the evaluation factors and final schedule parameters, which were disclosed for the first time in the RFO.[11]

Discussion

The standard of review applied to protests submitted to ODRA is predicated on the Administrative Procedure Act (APA), 5 U.S.C. § 706 (1994). This standard of review determines "whether the agency's decision was legally permissible, reasoned and factually supported." Information Systems & Network Corp., 99-ODRA-00116; Washington Consulting Group, 97-ODRA-00059; accord Delbert Wheeler Construction, Inc. v. United States, 39 Fed. Cl. 239, 247 (1997). The reviewer's judgment may not be substituted for that of the agency. Agency actions will be upheld so long as they have a rational basis, are not arbitrary or capricious, and are supported by substantial evidence. Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402 (1971); NanTom Services, Inc., 97-ODRA-00023; Boca Systems, Inc., 96-ODRA-0008. The APA standard of review of an agency decision is "highly deferential." J.A. Jones Management Services v. Federal Aviation Administration, No. 00-1023, slip op. at 3 (D.C. Cir. Sept. 29, 2000).

[11] In addition to submitting its post-hearing comments, intervenor Sensis has renewed its motion to dismiss the protest as untimely, urging that in light of the fully developed record, it is now clear that Northrop was fully aware of the grounds of protest prior to the date for submission of responses to the SIR. Given our decision on the merits, and in the interest of judicial economy, we do not address (or suggest that ODRA address) this motion.

The FAA's Acquisition Management System (AMS) does not mandate full and open competition, but prescribes a policy favoring competitive acquisitions. AMS Section 3.1.3. The AMS directs the use of competitive procurement procedures unless there is a rational justification for a sole source acquisition. AMS Section 3.2.2.2 states in pertinent part:

> The FAA shall provide reasonable access to competition for firms interested in obtaining contracts. The FAA's policy is to procure products and services from sources that offer the best value to satisfy the FAA's mission need. In selecting sources, the preferred method is to compete requirements for products and/or services among two or more sources.

The gravamen of Northrop's protest is that the end result of the procurement process for the ASDE-X system will be a de facto sole source procurement with award inevitably going to the Sensis/Raytheon team. As such, Northrop challenges the agency's decision to proceed with a total package, or bundled, procurement that combines the radar and other requirements with multilateration. Northrop contends that this combination of the requirement for radar with a multilateration sensor resulted in an overly restrictive specification that only one offeror can now meet. Northrop further contends that the FAA has not demonstrated that the total package approach is rational and reasonable under the circumstances. Northrop maintains that the agency could readily supply the multilateration sensor as GFE and obtain significantly enhanced competition for the remaining components of ASDE-X. Northrop discounts the FAA's position that the total package approach is needed to ensure contractor accountability and integration of components into a working system within the schedule constraints, which are justified by the enormous importance of acting quickly to install technology that can minimize runway incursions and the risk of fatal accidents. Northrop is of the view that contractual provisions could be used to minimize blame shifting and to achieve sufficient integration efforts. In short, Northrop contends that the evidence shows that the decision to bundle these requirements is not justified to meet the agency's minimum needs and thus cannot survive scrutiny under the APA's rational basis standard.

The Availability of Competition

Northrop's contention that the ASDE-X specification, as finally reflected in the RFO, gives Sensis such an overwhelming edge as to create a de facto sole source procurement is not supported by the record. Although Sensis, because it won the ATIDS competition, may have a leg up, with respect to certain active interrogation features, when compared to other vendors that market multilateration systems, the preponderance of evidence in the record suggests that this technical advantage could be matched by other multilateration suppliers within the FAA's desired time frame.[12] Finding 36, n.9. The multilateration requirement is

[12] Even assuming Sensis has a competitive advantage attributable to its

expressed in a performance specification. [REDACTED] expressly represented in its product literature, which it submitted to the FAA in response to the market survey, that it already has a product with active interrogation features.[13] Other vendors also stated that the proposed approach, the acquisition of the entire system from one vendor, appeared feasible. Although a few vendors questioned the extent of competition that might be obtained for the multilateration portion of the system, the FAA reasonably concluded from the information submitted that sufficient vendors and interest existed to make competition feasible. Moreover, three companies, including Northrop, proposed three different, apparently compliant, multilateration solutions in responses to the SIR.

Indeed, the fatal flaw in Northrop's argument that the FAA's decision to combine multilateration with the remaining ASDE-X components will result in a de facto sole source procurement is the very existence of these technically feasible responses to the SIR, all proposing different multilateration suppliers.[14] The fact that two vendors dropped out of the procurement of their own accord, and chose not to respond to the RFO, does not mean that competition was lacking. This is simply akin to the situation in which a valid competitive

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performance of the ATIDS contract, ATIDS was a competitively awarded contract. The FAA is not required to structure the procurement in a manner that neutralizes a competitive advantage that one vendor may have over another so long as that advantage does not accrue from Government action. Northrop Grumman Corp., B-285386, 2000 CPD ¶ 124; Mortara Instrument, Inc., B-272461, 96-2 CPD ¶ 212; Resource Consultants, Inc., B-255053, 94-1 CPD ¶ 59. In this case, the evaluation points accorded to multilateration are relatively low, suggesting that superior multilateration technology would not necessarily dictate the award decision, particularly if a competing vendor captured higher scores in other areas.

[13] Although [REDACTED] president states in a declaration executed in September that [REDACTED] decided against competing for the ASDE-X [REDACTED], which is for an ATIDS-type multilateration system to be produced under a tighter time frame than ASDE-X. According to the FAA's technical officer, the ASDE-X and DROMS specifications are functionally quite similar. He ascribed much of the differences in the length of the two specifications to the need for features required in an installed aircraft environment -- a technical effort that Sensis will also need to address. Thus, [REDACTED] concerns about its ability to compete under ASDE-X seem somewhat inconsistent with its belief that it has a viable chance for award of the DROMS contract. These concerns appear to be directed more to the attractiveness (or lack thereof) of the ASDE-X procurement from a business perspective than to any technical impediment to competition.

[14] Northrop's attempt to avoid this point by urging that the analysis should begin with issuance of the RFO, at which time it contends that the agency had no reasonable expectation of competition, ignores the reality of the FAA's procurement process, which began with issuance of the SIR and receipt of responses to that document.

range determination results in only one remaining offeror eligible to proceed to best and final offers. So long as the competing proposals were properly eliminated because they were not susceptible of being made sufficiently acceptable so as to have a reasonable chance of receiving an award, the fact that one offer remains does not convert the procurement into a sole source acquisition. E.g., Optical Data Systems-Texas, Inc., 67 Comp. Gen. 30 (1987); Metric Systems Corp., B-218275, 85-1 CPD ¶ 682; see also Kay and Associates, Inc., B-234509, 89-1 CPD ¶ 567 (no de facto sole source procurement found when technical proposal is properly rejected under step one of a two-step procurement, leaving only one competitor, the incumbent). Inevitably, at the conclusion of any competitive acquisition, there will be only one winner.

The Total Package Approach

Northrop cites several Comptroller General precedents to support its contention that in this case the bundling of radar components, various displays, and the multilateration sensor is not justified even under the rational basis standard of the APA.[15] In particular, Northrop relies on the holding in National Customer Engineering, B-251135, 93-1 CPD ¶ 225, as supporting its position that the FAA's stated rationale for combining these requirements does not suffice to justify the resulting restriction on competition. In National Customer Engineering, the agency's primary rationale for combining software and hardware maintenance requirements was the avoidance of finger-pointing and blame-shifting among multiple service vendors. GAO viewed the agency's concerns as arising principally from a desire for administrative convenience and rejected the suggestion that administrative convenience in that case could suffice to justify the restrictions on competition.

The GAO has had considerable occasion to address the competitive implications of bundling under the Competition in Contracting Act (CICA), and has recognized numerous rationales that do pass muster. These include the need to use a bundled or total package procurement to achieve necessary integration of components comprising a system needed for emergency situations, Institutional Communications Co., B-233058.5, 95-1 CPD ¶ 287, the need to obtain effective coordination of tasks by a single contractor because of loss of agency personnel capable of handling coordination, Border Maintenance Services, Inc., B-260954, et al., 95-1 CPD ¶ 287, the need to ensure military readiness, Southwestern Bell Telephone

[15] The FAA has advised that it regards Comptroller General, or General Accounting Office (GAO), decisions as persuasive authority, although not binding on the agency. Notably, the GAO cases addressing bundling, or total packaging, of requirements, apply the standards of the Competition in Contracting Act's (CICA's) requirement for full and open competition, which is not applicable to the FAA. Rather, as stated above in the text, the AMS calls for the FAA, when possible, to compete requirements among two or more sources. Some of the GAO decisions do, however, contain language referring to the reasonableness or rationality of an agency's decision to bundle requirements.

Co., B-231822, 88-2 CPD ¶ 300, and the need to meet critical schedule demands, Electro-Methods, Inc., B-239141.2, 90-2 CPD ¶ 363.

The decision in Institutional Communications Co. is particularly apposite. In this case a request for proposals issued by the Department of the Army sought a single prime contractor to assume total performance responsibility for a system to be acquired under a telecommunications modernization project (TEMPO). The TEMPO contractor was to be responsible for the system on a turnkey basis, much akin to the ASDE-X situation. Responsibilities were to include designing, furnishing, installing, testing and maintaining the system throughout the life of the contract. Ancillary responsibilities included site preparation, construction, training, the supply of documentation, provision of follow-on configuration engineering management and the like. The protester argued that this was unduly restrictive because it favored a particular competitor and a variety of alternative approaches to splitting the procurement were available that would increase competition. The Army explained that its total package approach was premised on the need for system integration. It was necessary that each of the TEMPO components and subsystems support and operate with other system elements. The agency argued that full integration and compatibility could only be achieved by having one contractor design the system and identify interdependencies and interrelationships among system components. Another justification was the need for reliability of the system and system availability in times of emergencies. The GAO reasoned that the agency's justification for a total package procurement, although restrictive of competition, was reasonable. The agency's past experiences and difficulties in ascertaining which sub-system had failed and with getting the correct contractor to repair the malfunction, together with the need to ensure system availability on a regular basis -- particularly during emergencies -- amply justified the more restrictive approach under CICA. The FAA's rationale for requiring a single contractor is strikingly similar.

The GAO has consistently recognized that the determination of a contracting agency's needs and the best method for accommodating them are matters primarily entrusted to the agency's discretion. Northrop Grumman Corp., B-285386, 2000 CPD ¶ 124; Caswell International Corp., B-278103, 98-1 CPD ¶ 6 (1997). Other tribunals have adopted similar standards:

> We cannot take issue with an agency's restrictions on competition in pursuit of legitimate agency requirements where those restrictions are rationally premised and reasonable. Here the agency has made a management judgment, based on its experiences . . . . Sometimes such judgments may be based on intuitive knowledge acquired through experience rather than a detailed and well documented study of the need for the requirement. . . . We give more credence to those persons charged with the responsibility for making such discretionary judgments than we give to the opinions of vendors which have

> not clearly demonstrated greater knowledge of the Government's internal operations and needs.

Computervision Corp., GSBCA 8744-P, 87-1 BCA ¶ 19,553 (1986); accord RMTC Systems, Inc v. Nuclear Regulatory Commission, GSBCA 11734-P, 92-3 BCA ¶ 25,113; Irvin Technologies, Inc., GSBCA 11581-P, 92-1 BCA ¶ 24,674 (1991). Moreover, when a requirement relates to national defense or human safety, as is the case with ASDE-X, an agency has the discretion to define solicitation requirements to achieve not just reasonable results, but the highest level of reliability and effectiveness. Caswell; Industrial Maintenance Services, Inc., B-261671 et al., 95-2 CPD ¶ 157.

Although Northrop is of the opinion that providing multilateration components as GFE would work equally well,[16] the FAA has made a management judgment, based on its many years of experience in acquiring systems for the enhancement of safety in the air and at airports, that a single contractor is needed to integrate the various components that comprise the ASDE-X system and to be accountable for its reliable and effective operation. The FAA's exercise of discretion in this regard deserves considerable credence and cannot be displaced or disregarded under the APA standard of review.

The FAA contracting officer and technical officer consistently testified, in depositions and at the hearing, that considerable thought was accorded to the structuring of this procurement, not only at the outset of the procurement process, but also throughout the various stages leading to issuance of the RFO. Although the agency was aware that no one contractor could supply all of the components of the entire system, the information available to the agency supported the preliminary conclusion that sufficient competition could be achieved through teaming and subcontracting arrangements. This conclusion was reasonably formed as to not only the radar components but also the multilateration elements.[17] The

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[16] In support of this contention, Northrop refers us to a recent GAO decision addressing an Air Force procurement for rapidly deployable and highly mobile radar systems. In this procurement, the Air Force was providing as GFE a data system, known as the Standard Automation Replacement System (STARS), that had been acquired under an earlier contract, and requiring that the radar systems interface with the STARS system. In conjunction with the provision of STARS as GFE, the STARS manufacturer would be required to share information with the contract awardee. Northrop Grumman Corp., B-285386, 2000 CPD ¶ 124. Northrop argues that this demonstrates that the FAA could also accomplish its objectives by providing Sensis units as GFE, and requiring Sensis to share information. The circumstances are distinguishable, however. As the FAA has pointed out, unlike the Air Force, it does not already own Sensis units to provide to the successful contractor. A separate procurement would have to be conducted, which, in the FAA's judgment, would adversely impact the schedule, if nothing else. Finding 11.

[17] As the FAA points out, literature submitted in response to the market survey,

contracting officer concluded that a total package approach would best satisfy the agency's need for the installation of a reliable working system with accountability vested in a single prime contractor. Although in some circumstances it might be appropriate to separate out the components to achieve broadened competition, in an environment in which it is increasingly urgent to address and prevent accidents attributable to runway incursions, the FAA reasonably concluded that such an approach was not appropriate for ASDE-X. A high level of accountability in the prime contractor is particularly important for a system that is necessary to address mounting safety concerns associated with runway incursions. Findings 11, 15.

Northrop disagrees, asserting that the FAA has not sufficiently, or with adequate specificity, explained the underlying rationale for the total package approach. Northrop maintains that its alternative -- providing the Sensis system as GFE -- can be implemented as readily as a single award to one contractor and that the problems raised by the FAA can be dealt with contractually. Although Northrop blithely claims these problems are easily resolved, the FAA program personnel expressed considerable skepticism based on personal experiences with the use of GFE in other programs. Finding 11. In the context of this

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and in particular from [REDACTED], contributed to the FAA's belief that Sensis was not the only company with multilateration sensors that could provide the active interrogation needed to achieve tagging, or identification, of aircraft. Findings13-14.

procurement, the FAA's misgivings are reasonable and rational. A schedule delay, or a faulty interface or integration glitch attributable to the use of GFE, could lead to a fatal incident that might otherwise have been prevented. The FAA has appropriately justified its total package approach.

To summarize, there is no basis on this record to conclude that the decision to procure a total package, or turnkey system, was overly restrictive or lacked a rational, reasonable basis so as to invalidate the FAA's approach under the APA test. Under the highly deferential standard accorded to review of the agency's actions, the decision to procure this system from a single prime contractor was justified by the need to ensure timely integration and reliability of the system, which is urgently needed for the nation's increasingly crowded airports and runways. Based on the information submitted by the various vendors that responded to the market survey, the FAA reasonably expected that a total package approach would generate proposals from the two or more sources preferred under the AMS. Up until issuance of the RFO, the FAA had this level of competition. Northrop did not withdraw its participation until it had the benefit of a debriefing with respect to its SIR response and concluded that it faced an uphill battle to win the competition. The evidence shows, however, that multilateration is an evolving technology and that, while Sensis may have an edge in providing a system at this point in time, that edge is not an insuperable obstacle from a technological development, or schedule, standpoint. Northrop's assertion that the FAA's technical requirements, evaluation factors, and schedule requirements prevented it from competing for award are belied by its own prior representations in responding to the SIR. Rather, Northrop has simply decided that opportunities to acquire and develop the necessary multilateration technology are not attractive, and it does not want to make this investment to compete for this contract as it is currently structured.

Recommendation

For the reasons stated above, I recommend that the Administrator deny the protest.

/s/
CATHERINE B. HYATT
Board Judge