

*U.S. DEPARTMENT OF COMMERCE
Office of Inspector General*



*NATIONAL INSTITUTE
OF STANDARDS
AND TECHNOLOGY*

*Award for Five-Axis Machining Center
Under RFQ SB1341-02-Q-0550
Justified But Procurement Process
Needs Improvement*

Audit Report No. STD-15839-3-0001/October 2003

**PUBLIC
RELEASE**

Office of Audits, Science & Technology Audits Division



UNITED STATES DEPARTMENT OF COMMERCE
The Inspector General
Washington, D.C. 20230

SEP 30 2003

MEMORANDUM FOR: Hratch Semerjian
Acting Deputy Director
National Institute of Standards and Technology

FROM:

Johnnie E. Frazier

SUBJECT:

Award for Five-Axis Machining Center Under
RFQ SB1341-02-Q-0550 Justified But
Procurement Process Needs Improvement
Final Audit Report No. STD-15839-3-0001

This is our final report on our audit of the National Institute of Standards and Technology's (NIST) procurement of a five-axis machining center for NIST's Manufacturing Engineering Laboratory (MEL) under RFQ SB1341-02-Q-0550. This matter came to our attention when NIST forwarded a December 2002 letter sent to the Secretary of Commerce by the Congressional delegation¹ from Connecticut regarding a complaint from a U.S. private sector firm. Our audit determined that the award was processed under the streamlined procedures for evaluation and solicitation for the commercial items test program, pursuant to the Federal Acquisition Regulation Parts 12 and 13. We found technical discrepancies and documentation deficiencies that should be corrected in future procurements. However, in our opinion, these discrepancies and deficiencies did not adversely affect the outcome of the procurement.

We appreciate the level of attention and careful consideration that you and your staff took to address our findings and recommendations. We have noted in the report that NIST has agreed with the findings and recommendations and is taking action to address the problems. NIST officials have agreed to improve their internal quality assurance program, develop supplemental policy and guidance, and provide training to their acquisition workforce. A copy of NIST's entire response is included as an attachment to this report.

INTRODUCTION

NIST forwarded to this office a December 2002 letter sent to the Secretary of Commerce by the Congressional delegation from Connecticut regarding a complaint from a U.S. private sector² firm. The complaint involved a contract awarded by NIST to a foreign firm for a five-axis

¹ The delegation consisted of Senators Christopher J. Dodd and Joseph I. Lieberman, and Members of Congress Nancy L. Johnson, Christopher Shays, John B. Larson, Rosa L. DeLauro, and Rob Simmons.

² Referred to as "the U.S. company" throughout the report.

machining center to be used for metrology and machining experiments. The delegation requested that the Inspector General conduct a review of NIST's decision for the procurement. The delegation's letter highlighted concerns that a U.S. company did not receive fair, equal, or appropriate treatment in the procurement process. Specifically, the letter raised the following concerns:

- The U.S. company did not receive timely notification that the Request for Quotations (RFQ) was released even though other potential suppliers were notified. By the time the company was notified, only a few days were left to respond. As a result, in rushing to meet the deadline, the company made an error in the offer.
- Although NIST held a "Vendor's Day" to discuss the machine's procurement requirements, the U.S. company was not invited to attend.
- NIST added \$20,000 to the U.S. company's offer because the offer did not include delivery costs to NIST at Gaithersburg resulting in the only U.S. firm's offer to be artificially inflated so that the U.S. company lost the award.
- The winning contractor's bid was higher than the bid from the U.S. firm.
- NIST preferred the foreign company's machine because it was a standard product and the U.S. machine was a "prototype" under development.
- NIST preferred the foreign company's machine because it utilized a larger worktable even though the U.S. offeror's machine was within the RFQ's specifications.
- NIST did not give preference to the U.S. company.

According to the combined synopsis/solicitation, the five-axis machining center being procured was to be a commercial item that would be used by NIST's Manufacturing Engineering Laboratory (MEL) to (1) conduct metrology and machining experiments, (2) serve as a state-of-the-art test bed for next-generation smart machine tool concepts, and (3) develop and verify STEP-NC standards based on open architecture machine control platforms. The machining center was to become a centerpiece of MEL's research into advanced machining for the next decade and had an estimated price of \$300,000.

Federal Acquisition Regulation (FAR) Part 12, Acquisition of Commercial Items, regulates the procurement of commercial items. FAR Part 12 instructs the contracting officer (CO) to use the policies and procedures for simplified acquisitions outlined in FAR Part 13 to solicit and evaluate offers, and to make awards, when appropriate for the particular acquisition. FAR Part 13 allows the CO considerable flexibility in the contract award process and in fashioning suitable evaluation procedures, and requires limited documentation. The purpose of the simplified acquisition procedures is to reduce administrative costs, improve opportunities for small business concerns, promote efficiency and economy in contracting, and avoid unnecessary burdens for agencies and contractors. When evaluating offers under the simplified acquisition procedures, rather than negotiated procurement procedures, the CO is not required to develop formal evaluation plans, establish a competitive range, conduct discussions, or score offers. Use of these simplified procedures allows the CO wide latitude in conducting the procurement and permits quicker processing of offers and making of awards. FAR Subpart 13.003 instructs agencies to use simplified acquisition procedures to the maximum extent practicable for all purchases of supplies or services that do not exceed \$100,000, the simplified acquisition threshold. FAR Part 13.5, a test program, allows procurement of commercial items up to

\$5,000,000 to be processed under the simplified acquisition procedures. NIST used the test program provisions for acquisition of the machining center.

FAR Part 5 requires the CO to post the solicitation for commercial items by transmitting a notice to the Government-wide point of entry (GPE; accessible via the Internet at www.fedbizopps.gov). The CO is to establish a response time that affords potential offerors a reasonable opportunity to respond, taking into consideration the complexity, commerciality, availability, and urgency of the acquisition, as well as applicability of the North American Free Trade Act (NAFTA) or the Trade Agreements Act. When evaluating offers, FAR encourages COs to use "best value" assessments—evaluations based on a combination of factors, sometimes specific to an individual procurement, rather than to make an award solely on the basis of lowest price.

The NIST solicitation stated that the award would be made based on the best value to the Government and that the determination of what constituted best value would include technical capability, price, and other factors, as appropriate, where technical and past performance, when combined, are considered more important than price. Despite the greater leniency given under the simplified acquisition procedures, if the award is based on factors other than price, the CO is required to provide supporting statements to document his/her decision. After the award is made, the unsuccessful offerors are generally notified when the CO posts the decision through the GPE.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of our audit was to determine whether NIST followed the correct contracting procedures for procuring the machining center and to address the issues raised in the December 2002 letter. The audit focused on the procurement conducted under RFQ SB1341-02-Q-0550. We reviewed the procurement file and interviewed personnel from the DOC Office of General Counsel, as well as NIST procurement and program personnel. We reviewed DOC and NIST contracting policies and procedures. We also examined relevant federal laws, regulations, and guidelines, including the Federal Acquisition Regulation and applicable GAO decisions.

We evaluated the adequacy of internal controls as they related to the specific procurement. We did not assess the reliability of computer-generated data because such data was not used during our review.

Our audit was conducted in accordance with generally accepted government auditing standards, and was performed under the authority of the Inspector General Act of 1978, as amended, and Department Organization Order 10-13, dated May 22, 1980, as amended. Our audit was conducted from January 2003 through March 2003, at the NIST campus in Gaithersburg, Maryland.

FINDINGS AND RECOMMENDATIONS

NIST generally followed FAR provisions concerning the acquisition of commercial items and the simplified acquisition procedures test program in contracting for the five-axis machining

center for MEL. We did find some technical discrepancies and documentation deficiencies; however, in our opinion, these deficiencies did not adversely affect the outcome of the procurement.

Concerns Raised by the December 2002 Letter

During our audit, we did not find evidence to support the position that NIST inappropriately procured a foreign made machine. NIST posted the combined synopsis/solicitation on the Internet at the web site required by the Federal Acquisition Regulation (FAR). This web site is available to all companies interested in conducting business with the federal government. Although there is no FAR requirement to contact individual potential vendors, NIST did telephonically contact all of the vendors on the potential vendors list provided by the MEL, including the U.S. company, on July 11, 2002, after the solicitation was posted to the Internet. The solicitation posted to the web site contained the requirements, technical specifications, and information relating to a NIST site visit which gave potential offerors an opportunity to view the facility where the machine would be installed. Additionally, the solicitation clearly stipulated that offers were to include pricing for delivery and installation of the machine in Gaithersburg. The U.S. company's offer did not contain the required delivery and installation pricing, and, as such, the contracting officer could have determined the offer non-responsive and eliminated it from the competition. NIST, however, did not eliminate the company's offer from competition and the contracting officer did not adjust the bid price to compensate for the deficiency.

The primary evaluation factors for the procurement were a combination of technical capability and past performance rather than price. NIST convened a technical review team to evaluate all of the proposals. The technical specifications in the solicitation were stated as a range rather than an absolute, with instructions that exceptions and exceedances to the specifications should be noted in the offer. In evaluating the offers, the technical review team analyzed the offers based on the technical specifications, while noting the exceptions and exceedances. Both the U.S. and the German companies' offers exceeded the technical specifications in several areas. However, the German company's offer not only exceeded the specifications but surpassed the U.S. company's offer in several areas deemed critical to NIST, including the table size, table load, work volume, and the tooling capacity.

The procurement was subject to The Trade Agreements Act; therefore, the offers of U.S.-made products and end products from designated, Caribbean Basin, or NAFTA countries should have received equal consideration. Germany is considered a designated³ country. The offers from the U.S. company and the German company were very close in price; however, the German company's bid price was lower than the U.S. company's bid price. Additionally, the technical aspects of the German company's offer exceeded those of the U.S. company. As a result, the contracting officer awarded the contract to the German company. If the Buy American Act had applied to the procurement, a 12% penalty factor would have been applied to the foreign offers. However, since the solicitation specified that technical qualifications were more important than price, the award could still have fairly been made to the German company even if its price had been higher than that of other bidders.

³ "Designated countries" are listed in FAR Subpart 25.003. There are approximately 60 designated countries of which Germany is one.

After NIST made the contract award to the German company, they posted the award announcement on the Internet web site used to post the initial solicitation. This was considered formal notification to non-successful bidders in conformance with the FAR. The U.S. company was also verbally notified of the award after they contacted the contracting officer. However, the U.S. company did not request a debriefing conference from NIST regarding the specifics of the award, and they did not file a protest regarding the award action even though the solicitation provided the Internet site for protest procedures.

Specific Concerns and Related OIG Findings

Each of the concerns raised by the December 2002 letter, along with the OIG findings, is specifically discussed below:

- *The U.S. company did not receive timely notification that the Request for Quotations (RFQ) was released even though other potential suppliers were notified. By the time the company was notified, only a few days were left to respond. As a result, in rushing to meet the deadline, the company made an error in the offer.*

We found that the combined synopsis/solicitation was posted and accessible via the Internet at www.fedbizopps.gov, as required by FAR Part 5, and that NIST procurement staff called all the companies on the potential vendor list on July 11, 2002--16 calendar days prior to the closing date--to advise them of the issuance of the solicitation. The U.S. company referenced in the Congressional letter was called on this date. We found no evidence that NIST called any of the vendors between the posting on June 28 and the call to all the vendors on July 11.

- *Although NIST held a "Vendor's Day" to discuss the machine's procurement requirements, the U.S. company was not invited to attend.*

We found, contrary to the allegation, that NIST did not hold a "Vendor's Day" but did hold a site visit on July 8, 2002, to allow offerors to view the facility where the equipment would be installed. The site visit information was included with the combined synopsis/solicitation issued on June 28, 2002. Neither the U.S. company nor the German company that received the award attended the site visit. The two companies that attended the site visit were unsuccessful bidders.

- *NIST added \$20,000 to the U.S. company's offer because the offer did not include delivery costs to NIST at Gaithersburg resulting in the only U.S. firm's offer to be artificially inflated so that the U.S. company lost the award.*

The U.S. company mentioned in the Congressional letter did not include transportation or installation costs in its offer, although the combined synopsis/solicitation clearly stated in pronounced lettering that "DELIVERY SHALL BE FOB DESTINATION" and that the contractor would be responsible for all rigging and installation charges. During the technical evaluation, the evaluation team noted the company's omission; however, we found no evidence that the company's pricing was increased when the team evaluated

pricing. In fact, the U.S. company that filed the complaint, along with the German company that received the award, were the two companies with offers that the technical team considered to best meet NIST's requirements. Additionally, of the nine companies that submitted offers, two were U.S. companies, one of which is the U.S. company that expressed their concerns regarding the contract award to the Connecticut delegation.

- *The winning contractor's bid was higher than the bid from the U.S. firm.*

The German company's bid price was lower than the U.S. company's bid price. However, because each offeror proposed a different configuration in terms of base machine and options, the technical review team that was convened to evaluate all offers developed a total package price from the pricing included in each of the offers. The package pricing became the pricing that was used for evaluation and comparison purposes and included the base machine and specific options. The German company's evaluated price, including delivery and installation, was \$3,562 less than the U.S. company's evaluated price, which did not include delivery and installation.

- *NIST preferred the foreign company's machine because it was a standard product and the U.S. machine was a "prototype" under development.*

We found that NIST considered the U.S. company's machining center to be intended for a specialized segment of the industry, whereas the foreign competitor's was considered more representative of the five-axis machines currently found in industry. The technical review team's report stated that using a type of machine more widely used by industry would allow NIST to conduct more applicable research and receive better acceptance of the results from their customers.

- *NIST preferred the foreign company's machine because of a larger worktable even though the U.S. offeror's machine was within the RFQ's specifications.*

Technical qualifications, specifically the work volume and size and of the worktable, were primary evaluation factors for the contract award. The combined synopsis/solicitation listed evaluation factors noting that technical capability—including instances in which the product meets or exceeds the requirement—and past performance, when combined, were more important than price. The specifications also included the statement that "Within the above ranges, machines with higher useful work volumes are more desirable." Additionally, both companies exceeded the solicitation's technical specifications for the worktable and work volume, but the German company's selected offer exceeded those of the U.S. company. The German company also offered a smaller version of their machine which was comparable to the machine offered by the U.S. company. This smaller machine was less expensive than the U.S. company's machining center; however, it was not selected due to its small work volume.

- *NIST did not give preference to a U.S. company.*

Preferential treatment would have been inappropriate for either of the two U.S. offerors as the Buy American Act did not apply in this instance due primarily to the value of the procurement. The Buy American Act generally restricts the purchase of supplies with an estimated value less than \$169,000, that are not domestic end products⁴, for use within the United States. Offers for foreign end products⁵ are assessed a penalty of either 6% or 12% when the contracting officer determines the reasonableness of cost for the offers received in response to the solicitation. However, this procurement exceeded the dollar limitation in the Buy American Act and was, therefore, subject to the Trade Agreements Act. The Trade Agreements Act waives the applicability of the Buy American Act for some foreign supplies and construction materials. As a result, offers for foreign end products from countries defined in the FAR as designated, Caribbean Basin, or NAFTA receive equal consideration with domestic offers. Germany is a designated country.

Overall Procurement Deficiencies

Although we did not find any problems with the overall outcome of the procurement, we did find several areas in need of improvement in the procurement process. The areas along with recommended actions are outlined below.

Incorrect Application of Buy American Act

Throughout most of the procurement process, NIST officials incorrectly applied the Buy American Act to the MEL acquisition. Procedures were in place, including legal review, to ensure the proper processing of procurements; however, it appears that no one caught this mistake until the end of the process. The CO incorrectly included FAR clause 52.225-1, Buy American Act-Supplies, in the solicitation and applied the provisions of the Act to the procurement. The Act restricts the purchase of supplies that are not domestic end products for use within the United States. However, the Buy American Act is waived for acquisitions with an estimated cost over \$169,000 subject to the Trade Agreements Act.

The MEL machining center procurement had a government estimated value of \$300,000 and met the criteria for application of the Trade Agreements Act. As a result, the procurement should have been processed under FAR Subpart 25.4, and the combined synopsis/solicitation should have referenced FAR clause 52.225-5. The Trade Agreements Act requires federal agencies to give equal consideration to the offers received for U.S.-made products and end products from designated, Caribbean Basin, or NAFTA countries without regard to the restrictions of the Buy American Act. However, the contracting specialist incorrectly applied penalties required by the Act to the foreign offers when no penalties should have been applied, included this information in the acquisition documentation, and forwarded the award recommendation package still recommending the award to the German company to the CO for signature. The CO signed the

⁴ A domestic end product means an end product manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. (Source: FAR Subpart 25.1)

⁵ A foreign end product means an end product other than a domestic end product. (Source: FAR Subpart 25.1)

award one day later; however, the proper Trade Agreements Act clause was identified at the last moment and included in the contract document. Even though the events leading up to the final award could have resulted in foreign offers being treated unfairly, the contract contained the correct clause. As noted previously, even if the German company's offer was more than the U.S. company's offer, the decision was based primarily on technical merits. In order to guarantee that both U.S. and foreign companies are treated fairly in the procurement process, the CO should ensure that the proper laws are applied and the appropriate clauses included in both the solicitation and the contract.

Incomplete Notification of Procurement Procedures

NIST's combined synopsis/solicitation included a statement that the solicitation was prepared in accordance with FAR Subpart 12.6, Streamlined Procedures for Evaluation and Solicitation for Commercial Items. It, however, did not explicitly state that the CO would be following FAR Subpart 13.5, the simplified acquisition procedures test program, in processing procurement of the machining center, a commercial item. Although this is not required by the FAR, a recent court opinion⁶ recommends complete notification in the solicitation. The applicability of the simplified acquisition procedures test program should be noted because these procedures provide the CO considerable leeway over the standard negotiated procurement procedures, and potential offerors should be aware of the specific procedures that will be used to process the procurement. Additionally, the FAR Subpart 13.5 test program is temporary and offerors may not be aware of its provisions without specific notice in the solicitation.

The court opinion states that if a solicitation is issued in accordance with FAR Subpart 12.6 and the cost of the commercial supplies to be purchased exceeds the simplified acquisition threshold, the solicitation should explicitly state whether the agency (1) intends to conduct the acquisition as a simplified acquisition under the FAR Subpart 13.5 test program, or (2) will follow the provisions of FAR Part 15, Contracting by Negotiation, and if so, which provisions of Part 15 it will follow. As a result, we believe that the CO should have fully disclosed in the solicitation the provisions under which the procurement would be processed to ensure that potential offerors are fully informed of the rules governing the procurement.

Further, the acquisition was required to be published for at least 40 days, unless the acquisition fell into an exception, a condition that was not met in this procurement. The requirement relates to procurements subject to the Trade Agreements Act, FAR Subpart 5.203. As the procurement was processed under the Buy American Act, which does not impose specific time requirements for receipt of offers, the 40-day requirement was not met. The combined synopsis/solicitation for the five-axis machining center was posted to the GPE at www.fedbizops.gov on June 28, 2002, with a closing date of July 18, 2002. A modification was issued on July 11, 2002, extending the closing date to July 26, 2002, but still allowing only a total of 28 calendar days for companies to submit their offers. It is important to correctly identify the requirements applicable to each procurement and establish appropriate response times so that adequate competition is achieved and the action is fair and reasonable.

⁶ U.S. Court of Claims bid protest Opinion No. 98-884C, dated March 31, 1999.

Procurement Process Could Be Strengthened

We observed several procurement actions that need to be improved to ensure that the technical review team makes the most appropriate determinations concerning “best value.” These consist of the contracting specialist (1) providing insufficient instructions to the technical review team to allow for adequate review of offers, (2) providing both technical and pricing information at the same time to the team, and (3) failing to fully explain what constituted “best value” in this instance, which formed the basis for the procurement award. When procurements, such as the machining center, are complicated, specifications are lengthy, and laws regulating foreign acquisitions apply, good business practices require that the CO provide specific guidance to evaluation teams.

The combined synopsis/solicitation stated that the contract would be awarded based on best value to the government using factors of technical capability, past performance and price; and that technical capability and past performance, when combined, were to be more important than price. The instructions to the review team did not fully explain what constituted best value and did not provide specific procedures for the team to use when performing the technical evaluations—for example, how to conduct the reviews, the extent to which each offer should be reviewed, and how the results should be reported. The instructions also did not explain that past performance verification for companies with equipment already being used at NIST must be documented in the same manner as verification for companies without equipment at NIST. The procurement file did not contain information regarding the past performance for equipment being used at NIST.

Finally, the instructions to the team did not fully explain to the team how a recommendation for award and a statement of the reasonableness of the price quoted should be prepared and what should be included. Under the simplified acquisition procedures test program, when offers are for procurements that exceed the simplified acquisition limit of \$100,000 but do not exceed \$5,000,000 and the award will be based on best value factoring in technical capabilities, it is important that the technical team findings not be influenced by pricing information. If the technical team is to make a determination of price reasonableness, that judgment should be made after the technical review is completed and any required adjustments to price—for example, ones required under the Buy American Act—are made.

To ensure that evaluations of offers are fair and objective, NIST should ensure that the contracting personnel correctly apply the applicable FAR provisions. NIST should develop clear, accurate, and concise guidance regarding how technical, past performance, and pricing reviews should be conducted and how best value should be applied when using the test program under the simplified acquisition procedures.

RECOMMENDATIONS

We recommend that the NIST Acting Deputy Director instruct the Chief, Acquisition and Assistance Division to:

1. Develop and document procedures to ensure that all procurement actions comply with the provisions of the FAR.
2. Ensure that clear, accurate, and concise guidance is developed regarding how best value should be defined for procurement actions, as well as how technical, past performance, and pricing reviews should be conducted when using the test program under the simplified acquisition procedures, and ensure that the guidance is followed.

NIST's Response to Recommendations

NIST officials agree with the recommendations and are in the process of revising their internal quality assurance checklists, developing supplemental policy and guidance, and providing training and review of these issues with the entire NIST acquisition workforce.

In accordance with DAO 213-5, please provide us with the audit action plan for our review and concurrence addressing all of the report recommendations within 60 days of this memorandum. Should you need to discuss the contents of this report or the audit action plan, please call me at (202) 482-4661, or Michael Sears, Assistant Inspector General for Auditing on (202) 482-1934.

Attachment

cc: Steven Willett, Audit Liaison



SEP 16 2003

MEMORANDUM FOR Michael Sears
Assistant Inspector General for Auditing

From: Hratch G. Semerjian
Acting Deputy Director

Fw HSS / Robert Bennett

Subject: Award for Five-Axis Machining Center Under RFQ SB1341-02-Q-0550 Justified But
Procurement Process Needs Improvement – Draft Audit Report No. STD-15839-3-xxxx

We would like to thank the OIG for the fair and balanced analysis presented in the findings and recommendations. Although it was determined that contract award was made to the correct offeror, we concur that respective to this procurement there are five areas of specific procedural concern:

- a. inappropriate application of FAR subpart 25;
- b. incomplete notification of applicable procurement procedures;
- c. inadvisability of releasing technical and price proposals simultaneously to the review panel;
- d. need to conduct and document past performance reviews on NIST projects consistent with the process used for non-NIST references;
- e. need to develop written guidelines for evaluations and best value determinations when utilizing simplified acquisition and test program procedures.

As a result of this review we are in the process of revising our internal quality assurance checklists, developing supplemental policy and guidance, and providing training and review of these issues with the entire NIST acquisition workforce. Upon receipt of the final version of the OIG's report on this procurement, we will forward a copy of our action plan documenting these changes and steps for improvement in the identified areas.

In addition, we would like to note the following suggested changes to the report for improved clarity:

- a. Page 4, next to the last paragraph, please modify the last sentence to read " ... NIST, including the table size, table load, work volume, and ... "

NIST

- b. Page 6, third bulleted item, please change the sentence "... that using a machine more widely known in the industry ..." to read "... that using a type of machine more widely used by industry ..."
- c. Page 6, fourth bulleted item, first sentence, please change the sentence "... specifically the size and volume of the worktable ..." to read "... specifically the work volume and the size of the worktable ..." This change would better relate to the quoted statement from the specifications included later in the same paragraph.
- d. Page 6, fourth bulleted item, it should be noted that the German company also offered a smaller version of their machine comparable to the machine offered by the U.S. company. Although this smaller machine was much less expensive than the U.S. company's machining center, it also was not selected due to its small work volume.
- e. Page 7, first sentence, please revise to read, "Additionally, both companies exceeded the solicitation's technical specifications for the worktable and work volume, ..."

Again, we appreciate the thoroughness of the review and the professionalism with which it was conducted.