

**STATEMENT OF WORK  
FOR  
Maintenance, Calibration, and Repair Program  
Codes R, S & Y**

**1.0 Introduction/Background:** NASA Ames Research Center (ARC) requires a new contract to obtain services to maintain, calibrate, and repair machines for codes R, S & Y located at NASA ARC. The services needed require a vendor that is factory-certified to service multiple machines that use Heidenhain controller and measuring devices in their operation. Historically, the machines have been maintained and/or calibrated on a rotational schedule at NASA ARC and as needed, machines were diagnosed and repaired at NASA ARC.

**2.0 Scope of Work:** The contractor shall provide required maintenance, calibration and repairs, including emergency and unscheduled repair, for NASA ARC code R, S & Y machines. All maintenance & Linear Error Evaluation and Calibration (LEE&C) will be performed on a Firm-Fixed priced annual schedule. All repairs and other calibrations will be on an as needed basis using Time and Materials procedures. A complete list of machines to be maintained, calibrated, and/or repaired is listed in Appendix A. Machines not listed in Appendix A must be negotiated and bilaterally modified into the contract prior to any work being performed.

**3.0 Applicable Documents/Background:** The vendor shall have established relationships with the Original Equipment Manufacturer(s) (OEM) and dealers for all machines to be maintained, calibrated, and repaired in Appendix A. Machine tools to be maintained and calibrated in accordance with OEM, NASA ARC, International Organization for Standardization (ISO), American Society of Mechanical Engineers (ASME), National Fire Protection Association (NFPA) and/or Occupational Safety & Health Administration (OSHA) specifications and standards as applicable.

**4.0 Description of Tasks/Technical Requirements:**

**4.1 Machine Maintenance and LEE&C:** Vendor shall, at minimum, clean, remove machine covers and inspect, lubricate and calibrate all machine mechanical & electromechanical systems and subsystems during machine maintenance and calibration. The systems include, but are not limited to, Coolant System, Hydraulic System, Pneumatic System, Lubrication System, Chiller System, Chip Removal System, Machine Enclosure, Axes, Spindle Heads, Automatic Tool Changer (ATC) and/or Turret, Electrical Enclosure, Operator Station and Safety Interlocks. Prior to maintenance and LEE&C, the vendor shall perform preliminary inquiries that include Operator Interviews, Functionality Tests, and Initial Metrology Evaluations. The vendor shall conclude all Inspection and Calibrations with mechanical alignments.

**4.2** As part of the maintenance and LEE&C plan, all waste that is generated while performing maintenance and repairs shall be controlled, stored and labeled per the Ames requirements. The vendor shall also complete the NASA Form A (ARC749) and submit it to code Q who will pick up the haz-waste. The vendor shall ensure its technicians that generate waste take the NASA AMES Hazmat waste generator training class. The vendor should also submit a list of consumables that will be needed for upcoming preventative maintenance to the shop point of contact and the COR so that when the preventative maintenance begins, all required consumables are ready. The vendor shall address minor repairs not requiring parts. The vendor shall develop and submit written or electronic inspection reports, ball-bar data and graphs, and recommendations regarding maintenance and calibration to the shop point of contact and Contracting Officer Representative (COR) for each machine maintained and calibrated.

Machine maintenance and LEE&C's shall be completed per the rotational maintenance schedule in Appendix A.

**4.3 Machine Repairs & other Calibrations:** All repairs & other calibrations shall be performed per Time and Materials procedures. Repairs & calibrations shall not allow for other direct costs (*e.g.*, incidental services for which there is not a labor category specified in the contract, travel, computer usage charges, etc.) for work being performed at NASA ARC. Repairs that require specialized technicians or made at locations other than NASA ARC, directed by the Contracting Officer, will allow other direct costs as agreed to in this contract.

The vendor shall first perform a repair diagnostic test on normal NASA ARC working days (Monday through Friday excluding federal holidays) in the presence of a technical representative within 24 hours of being notified. All repairs & diagnostic scheduling will be coordinated with the shop/lab technician ahead of time. After diagnostic testing is performed, the vendor shall submit a repair quote to the COR detailing the replacement parts and prices, the labor categories required with associated labor rates, and the number of labor hours required for each labor category.

Repairs will require Contracting Officer approved task orders prior to any work being performed after diagnostic testing. Each repair task order issued shall include a ceiling price that the contractor exceeds at its own risk. This contract is only for repairs that exceed the micropurchase threshold.

**4.4 Post Award Conference:** Government will conduct a post award conference Via Tele-conference or in person at NASA ARC to discuss

contract parameters at a date to be determined after contract award prior to work commencing.

**5.0 Deliverables:** The vendor shall provide maintenance and calibration reports, ball-bar graphs, list of recommend repairs (if needed) per 4.1 and shall provide detailed repair quotes per 4.2. The contractor will record the hardware and services provided throughout the years. New or modified documentation developed by the vendor will be provided to the COR of the shop/lab. The contractor shall maintain copies of software backups throughout the contract and make sure the COR of the shop/lab receives copies. The vendor shall notify the COR when maintenance or repairs are complete and that the machine has been released for use.

**Notes:**

Appendix A: Rotational machine maintenance plans and a complete list of machines eligible for repairs & calibrations.