Synopsis- Notice of Intent to Sole Source

The purpose of this synopsis is to announce the National Institute of Standards and Technology's (NIST) intent to negotiate a Firm Fixed Price sole source purchase order with Evans Analytical Group, LLC. (EAG) located at 2710 Walsh Ave Santa Clara, CA 95051-0963 for the purpose of acquiring surface analysis services for characterizing NIST delta layer samples.

The Government intends to negotiate solely with Evans Analytical Group. per FAR 13.106-1(b), as no other source of supplies will satisfy agency requirements. EAG is a unique source unique capable of fulfilling the Government's needs for the following reasons:

1). EAG is the only source with all of the required capabilities required to perform the analysis inclusive utilizing a combination of the following: Secondary Ion Mass Spectroscopy (SIMS) and Transmission Electron Microscopy (TEM), X-Ray Photoemission Spectroscopy (XPS), Time-of-flight SIMS (TOF-SIMS), and Energy Dispersive X-Ray Spectroscopy (EDS), and Focused-Ion-Beam Etching (FIB).

The minimum capabilities within the analyses are as follows:

1.) Requirements for Secondary Ion Mass Spectroscopy (SIMS).
   a. The signal detected shall be secondary ions.
   b. The detection sensitivity of dopants and atmospheric impurities shall be 1 ppm or lower.
   c. The dynamic range shall be five (5) orders of magnitude or higher.
   d. The elements detected shall be H-U (including isotopes), have high mass resolution in order to provide both 28SiH and Phosphorus depth profiles on the same phosphorus dosed Si sample.
   e. The detection limits shall be <=3x1016at/cm3 for Phosphorus, Oxygen, Nitrogen, Hydrogen, Fluorine, Carbon, Germanium, Boron elements.
   f. The depth resolution shall be <=6Å.
   g. Shall have imaging/mapping.
   h. Shall have a lateral resolution/probe size of <=20µm (depth profiling); 1µm (imaging mode).
   i. The SIMS measurement chamber base pressure shall be <1e-10 Torr.
   j. Shall be capable of providing SIMS data analysis with software.

2.) Requirements for Transmission Electron Microscopy (TEM)/STEM Analysis
   a. The signal detected shall be transmitted electronics, scattered electronics, secondary electronics, x-rays.
   b. The elements detected shall be B-U (EDS).
   c. The detection limits shall be (0.1-1at%)
   d. Shall have EDS, EELS image mapping.
   e. The ultimate lateral resolution shall be <0.2nm.

2.) This action is a logical follow on to ongoing efforts with EAG. EAG facilities have specific NIST traceable calibration in terms of SIMS sputter depth resolution SIMS and TEM measurement. Consistency and repeatability of measurement results is critical to maintain continuity with previous measurement results for subsequent measurements as part of these on-going efforts. Duplication of these efforts will result in additional investment to the Government in terms of re-interpretation of previous results as well as requiring the adjustment or re-establishment the standard device fabrication procedures developed under previous results.

The NAICS code for this acquisition is 541380, with a size standard of $15,000,000.00. A determination by the Government not to compete the proposed acquisition based upon responses to this notice is solely within the discretion of the Government. Information received will be considered solely for the purpose of determining whether to conduct a competitive procurement. No solicitation package will be issued. This notice of intent is NOT a request for competitive quotations. However, responses received by 08/24/2016 3:00 PM Eastern Time will be considered.