Mississippi State University
Notice of Proposed Sole Source Purchase

256-090

Mississippi State University anticipates purchasing the item(s) listed below as a sole source purchase. Anyone objecting to this purchase shall follow the procedures outlined below.

1. Commodity or commodities to be purchased (make, model, description):

iGC-NOVA High Temperature Surface Energy Analyzer

2. Explanation of the need to be fulfilled by this item(s), how is it unique from all other options, and why it is the only one that can meet the specific needs of the department:

This is the only iGC instrument of its kind that allows investigations into material surface properties. The unique aspects of this instrument that are required by this research into materials for nuclear facilities include:

a) Flame Ionisation Detector with sensitivity capabilities of 10 ppb carbon
b) Vapor phase injection system for infinite dilution as well as finite dilution with temperature-controlled solvent probe reservoirs
c) Hydrogen generator with hydrogen leak detector
d) flow rates at least for 40 mL/min with accuracy of 0.03 at around room temperature
e) Software with surface uniformity mapping and solvent calibration modes
f) Furnace for direct column heating up to 500 ˚C

3. Name of company/individual selling the item and why that source is the only possible source that can provide the required item(s):

Surface Measurement Systems is the only company providing a configured inverse chromatography instrument with software calculating results, temperature-controlled reservoirs and columns, an automated vapor injection system, a humidity unit, and with a detector resolution capable of the needed range.

4. Estimated cost of item(s) and an explanation why the amount to be expended is considered reasonable:

Our quoted price for this item is $190,353.90.

The price for building such an instrument would exceed the amount of the commercially-available unit. Pairing a detector with the proper specifications, heating and cooling of solvent reservoirs, chamber for heating the column capable of 100 ˚C heating rate, injection system with automation, mass flow controllers, gas generation would already rival this cost, and developing a software with calibration modes and information for each solvent, along with analysis software for calculations of acid-base component, surface energy heterogeneity mapping, BET surface area, isotherm, Gibbs free energy desorption, enthalpy, solubility parameters, sorption, and many more, would definitely exceed the quoted price significantly

5. Explanation of the efforts taken by the department to determine this is the only source and the efforts used to obtain the best possible price:

This instrument has been determined to be unique after a 3-year search for alternative units with the same capabilities. Searches within most commercial scientific instrument vendors, general company and product searches, as well as references within the academic literature were conducted with no existing instrument outside of the iGC-NOVA.

Any person or entity that objects and proposes that the commodity listed is not sole source and can be provided by another person or entity shall submit a written notice to:

Jennifer Mayfield, CPPO
Director and CPO, Procurement & Contracts
jmayfield@procurement.msstate.edu
Subject Line must read “Sole Source Objection”

The notice shall contain a detailed explanation of why the commodity is not a sole source procurement. Appropriate documentation shall also be submitted if applicable.

If after a review of the submitted notice and documents, MSU determines that the commodity in the proposed sole source request can be provided by another person or entity, then MSU will withdraw the sole source request publication from the procurement portal website and submit the procurement of the commodity to an advertised competitive bid or selection process.

If MSU determines after review that there is only one (1) source for the required commodity, then MSU will appeal to the Public Procurement Review Board. MSU will have the burden of proving that the commodity is only provided by one (1) source.