

Mississippi State University Notice of Proposed Sole Source Purchase

245-148

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):

Nuclear Magnetic Resonance (NMR) solid-state probe upgrade accessories with a Sample Case accessory for the MSU NMR facility.

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:

Bruker BioSpin is the manufacturer of all of MSU's NMR instrumentation, which is proprietary hardware used to monitor magnetic properties of chemical compounds.

The proposed purchase is for accessories that will enable the NMR facility to collect and analyze NMR spectra of solid materials (solid-state NMR). Specifically, these accessories include:

- **Solid-State Sample Probe.** This upgrade requires a sample probe that is optimized for magic-angle spinning (MAS) of samples. MAS is a common way to improve NMR spectral quality. The probe is technically and structurally very different from existing probes used to record NMR spectra on solution samples.
- **MAS Controller.** Since samples are spinning in the probe at high speeds, an MAS controller is needed to monitor and control the spinning speed of the sample in the MAS probe.
- **High-Power Amplifier.** Solid-state NMR needs higher power pulses than solution NMR, and the amplifier must be upgraded. This amplifier must interface electronically with existing equipment to generate the pulses needed for solid-state NMR.
- **Automatic Sample Changer.** When the solid-state probe is inserted, solution-state samples cannot be run on the same instrument. An automated sample changer is needed to simplify and streamline the insertion and running of samples when the MAS hardware is installed in the NMR.

These accessories must interface with the proprietary hardware, software, and control systems provided on MSU's existing Bruker NMR instrumentation. New, stand-alone NMR systems capable of collecting solid-state NMR data can cost millions of dollars, as evidenced by MSU's recent purchase of the 800 MHz system installed last year. By purchasing solid-state NMR accessories as an upgrade for the existing NMR, the department hopes to reduce spending by a substantial sum. However, this decision requires us to use proprietary Bruker hardware. Other vendors do not make commercial accessories that interface with Bruker's instruments, so this is the only option available to fulfill the department's needs.

To summarize, the unique features are: (1) interface with existing NMR hardware provided by Bruker, and (2) provide solid-state NMR capabilities for the existing NMR systems in the NMR facility, and (3) support automatic sample insertion to streamline operations when the solids probe is being used.

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

Bruker BioSpin Corporation

15 Fortune Drive
Billerica, MA 01821 USA
Phone: (978) 667-9580

Sales Representative: David Vargas
Email: david.vargas@bruker.com

Bruker BioSpin is the only vendor able to meet the requirements above. Since the existing NMR technology is proprietary, the upgrade accessories must be obtained from Bruker.

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

The total cost of the items is estimated to be \$276,926.34. This price includes all the accessories described above, reflects academic pricing, and includes all freight. This price is reasonable because a new instrument supporting solid-state NMR would cost at least four times as much. These accessories are expected to last 10 years or longer, and the price is comparable to other scientific instruments of similar complexity.

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:

The NMR facility staff investigated options for bringing solid-state NMR capabilities to MSU. Meeting with multiple sales reps from NMR instrument manufacturers determined that adding a solids upgrade to our existing instrumentation would be far cheaper than purchasing a new instrument and would be the easiest way to add the ability to the facility. The departmental instrument committee met and deemed that the capabilities provided by the upgrade, including improved resolution and characterization of polymers, were suitable for the needs of MSU faculty.

The NMR facility staff negotiated with the sales representative to obtain the maximum possible discount, including an academic discount.

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
Interim Deputy Director of 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.