

NMHU PURCHASING DEPARTMENT

SOLE SOURCE JUSTIFICATION FORM

A sole source procurement is one for which only one vendor is capable of or allowed to perform a particular service and/or construction or for a tangible item that can be offered by only one vendor. A sole source procurement must comply with §13-1-126 and §13-1-128 N.M.S.A. 1978 and all other state statutes and federal laws pertaining to sole source procurements.

Submittal of this form is one of the steps required prior to approval of the procurement (approved via issuance of a purchase order). If this procurement is approved by the NMHU Purchasing Department it will then be posted onto the University's website and the State of New Mexico's Sunshine Portal. The posting will be for no less than thirty (30) calendar days. If a potential vendor submits a protest against a sole source procurement within that timeframe, the sole source will not be awarded until, and if the protest is resolved.

This form must be completed in its entirety. If it is not completed in its entirety it will not be accepted and will be returned to the requestor.

Describe the tangible item(s), construction and/or service(s) you would like to procure.

An integrated *HPGe Gamma Ray Spectrometer system* consisting of the following: a broad energy germanium detector, integrated multi-channel analyzer, shielding, and operation and data management software. As well as a *Portable Gamma Spectrometer* that uses a spectroscopy software platform common to the laboratory gamma spectrometer.

Can this procurement be made by the regular bidding process? If not, explain why.

These prices include an educational discount on the software and some of the hardware that expires at the end of 2013; a savings of over \$14,000.

This instrumentation is being purchased to facilitate the study of defects and impurities in quartz that gives rise to the phenomenon of optical stimulated luminescence and thermally stimulated luminescence. As such there are critical specifications that the instrumentation must meet to support the research to be conducted. Canberra Industries is the only vendor which meets all the required key specifications listed below.

Integrated Multi-Channel Analyzer

- Advanced auto pole/zero (US Patent #7725281), base line restoration and digital stabilization capability which allows the following:
 - Facilitates rapid and accurate modeling of samples;
 - Provides visual validation of modeling;
 - Software development kit with examples;
 - Allows customer customization of user interface;

- Two groups of 32K channel conversion gain/spectral memory which allows small channel size (in keV) choices and enables unique counting modes
- Operates in pulse height analysis (PHA), multichannel scaling (MCS), dual channel loss free counting (LFC), multispectral scaling (MSS) and time-stamped list modes

HPGe Detector

- 0.75 keV FWHM resolution at 122 keV
- P-type detector with 3 keV low energy cutoff
- Stable (non-growing), electrical contact on front face of the detector
- Common spectroscopy software platform with the portable gamma spectrometer

Shielding

- 6" Pb thickness minimum
- Inner 1" of Pb has 210Pb content of about 20 Bq/kg
- No Pb surfaces exposed
- Lift top mechanical lid. This introduces an offset in the Pb seal to prevent direct transmission along the gap.

Portable Gamma Spectrometer

- Detachable probe for monitoring space limited areas
- Ability to calculate measurement geometries for efficiency calibration.
- Ability to define multiple analysis algorithms and load them in the field for different applications.
- Ability to use multiple scintillator probes on one instrument. Each probe remembers its type and energy/channel calibration
- Common spectroscopy software platform with the laboratory spectrometer

What other tangible items, services or construction methods did you consider? Specify the specifications, sources, technical data and any other non-tangible factors that you considered.

I considered other possible vendors that might meet all specifications, none were found. Most of the instrumentation in this field is targeted for monitoring the transport of radioactive material, equipment that the Department of Homeland Security might procure.

Did you rely on information from other individuals to make your determination, if so by who and what information did they provide?

I spoke with OSL/TL researchers from three different luminescence laboratories about the type of instrumentation they used and how well it worked for them. They all recommended the same vendor, Canberra Industries. The consistent view was that Canberra instrumentation performed very well for the task of investigating the phenomenon of optical stimulated luminescence and thermally stimulated luminescence.

Attach to this department quotes, technical specifications or other data that describes the

tangible item(s), service(s) and/or construction. It must also include, at a minimum, the vendor's name, address and telephone number and the amount of the procurement.

Canberra Industries, Inc.
800 Research Parkway
Meriden, CT 06450

800-243-3955

Total of procurement: \$129,500

Provide any additional information that may be useful in making a determination.

I certify that all the information provided in this document and all attachments (if applicable) are to the best of my knowledge and I understand that there are penalties for willful violations of the State of New Mexico Procurement Code.

_____	_____	_____
Requestor Name and Title	Signature	Date

APPROVALS:

_____	_____	_____
Department Head or Dean (if different from above) Name and Title	Signature	Date

_____	_____	_____
Purchasing Department Name and Title	Signature	Date

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