Proposed Sole Source Purchase Form

Pursuant to New Mexico Procurement law, the UNM Purchasing Department will post your completed form on the UNM Sunshine Portal for 30 days prior to purchase of the goods/services.

I. GENERAL INFORMATION. PLEASE PROVIDE THE FOLLOWING:

<table>
<thead>
<tr>
<th>Date of Request</th>
<th>August 19, 2019</th>
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<tbody>
<tr>
<td>Requisition Number (If Applicable)</td>
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<tr>
<td>Request Submitted by:</td>
<td>Salvador Portillo</td>
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<tr>
<td>Title</td>
<td>Research Associate Prof.</td>
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<td>Department</td>
<td>Electrical and Computer Engineering</td>
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<td><a href="mailto:sportil@unm.edu">sportil@unm.edu</a></td>
</tr>
<tr>
<td>Phone</td>
<td>277-1311</td>
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<tr>
<td>Proposed Vendor</td>
<td>Specialized Imaging</td>
</tr>
<tr>
<td>Estimated Amount</td>
<td>123298.92</td>
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</tbody>
</table>

Buyer Team - See Commodity list at [http://www.unm.edu/~purch/commcodes.pdf](http://www.unm.edu/~purch/commcodes.pdf)

Provide a basic description of goods/services to be provided:

This is for the purchase of a scientific streak camera. It captures image data in the picosecond/nanosecond regime.

Why is this purchase needed?

Our sponsored research work focuses on investigating the multipactor effect, a natural phenomena that occurs on satellite communication tubes and that can severely impact their performance, to the point of complete damage. As such our sponsor has awarded us a multi year grant, along with other collaborators, to find solutions to this issue. This is essentially plasma physics research that calls for nano and pico second resolution imaging of temporally transient phenomena that occur in mm spatial gaps. The temporal length of these events means that they last for 100’s of nano seconds perhaps up to the microsecond regime. The only known device capable of measuring this is a streak camera.

II. BASIS FOR SOLE SOURCE PROCUREMENT. CHOOSE APPLICABLE BOX(ES) AND PROVIDE ADDITIONAL INFORMATION, AS REQUESTED:

☒ Proprietary item, technology or service only available from the proposed vendor. (Check box and describe proprietary component)

This is the only vendor capable of meeting the specific and stringent requirements for this research. The camera must not only have resolution in the picosecond regime but it must also capture temporally evolving plasmas with sweep speeds down to the picosecond regime all the way up to the millisecond time scale. Additionally, it must have Ultraviolet capability with a UV optics capable system and it must have a multichannel plate (MCP) to allow for very fast gating. This broad sweep length with UV capability and Multichannel plate is only possible with this camera.

☐ Compatibility requirement with existing item, technology or service. (Check box and describe compatibility requirement)
☐ Renewal of support/maintenance/subscription of software, technology or other intellectual property. (Check box and describe)

☐ Other Basis for Sole Source: Please describe below:

III. SUPPLEMENTAL DETAILS. PLEASE PROVIDE ADDITIONAL INFORMATION AS REQUESTED BELOW:

Describe in detail the unique capabilities of the proposed vendor’s goods/service and/or personnel performing the work and why this constitutes the only source. Focus on what is unique about the goods/service and why no other vendor could meet your needs.
This is the only vendor capable of meeting the specific and stringent requirements for this research. The camera must not only have resolution in the picosecond regime but it must also capture temporally evolving plasmas with sweep speeds down to the picosecond regime all the way up to the millisecond time scale. Additionally, it must have Ultraviolet capability with a UV optics capable system and it must have a multichannel plate (MCP) to allow for very fast gating. This broad sweep length with UV capability and Multichannel plate is only possible with this camera.

Describe the due diligence made to locate other possible sources including communications with other universities, communications with similar providers, web searches, yellow page searches, review of advertisements and trade publications, etc.

There are only 5 manufacturers or so in the world for this type of equipment. I called all of them and requested official quotes on the best equipment they can deliver to fit the needs of my research. Four of them provided the quotes and I submitted these. As you can see from these, none of the other 3 manufacturers can meet my sweep speed requirements, resolution, UV capability or MCP requirements. ONLY Specialized Imaging can do so and it does so at a lower price. This manufacturer was also approved by my sponsor when I submitted the grant request.

List the other vendors who were contacted. Please describe the specs/qualifications/criteria that the other vendors were unable to satisfy.

Please see quotes I submitted but to recap

Hamamatsu: Does not meet sweep speed requirements. Does not go down to low picosecond regime nor as high as the millisecond. Not high enough resolution
Sydor: Does not meet sweep speed requirements. Does not go down to low picosecond regime nor as high as the millisecond. No UV capability, not high enough resolution
Cordin scientific: Does not meet sweep speed requirements. Does not go down to low picosecond regime nor as high as the millisecond. NO UV capability, no MCP, poor resolution
Specialized Imaging: met requirements