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>Requisition Number (If Applicable)</th>
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<tbody>
<tr>
<td>7/12/18</td>
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</tbody>
</table>

Request Submitted by: Dr. Marek Osinski  
Title: Professor  
Department: Center for High Technology Materials  
Email: Osinski@chtm.unm.edu  
Phone: 505-272-7812

Proposed Vendor: HYPRES Inc.  
175 Clearbrook Road  
Elmsford, NY 10523  
Phone: +1-914-592-1190 ext. 7817  
Amount: $360,000.00

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 an integrated Cryo-electronic testing for the rapid testing of low temperature cryogenic components. The modular cryogenic insert provides DC, high frequency and optical connections. This modular insert can be cooled down to 4 kelvin.

Why is this purchase needed?

This purchase is needed to provide a characterization environment for integrated strongly injection locked cryogenic ring lasers, and was budgeted with the grant supporting this research.

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)

  The proprietary technology of this cryogenic test-bed is that there are interchangeable inserts that allow a cryogenic system to be packaged in the insert, allowing third party to test the device with their own Hypress system without disassembling the packaged device in the insert. Also this insert design allows flexibility connections to the cryogenic device and rapid testing and prototyping of different devices.

- [ ] Compatibility requirement with existing item, technology or service. (Check box and describe compatibility requirement)
### 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.

The ICE-T system accommodates two interchangeable “inserts” with a standard vacuum flange. An “insert” is an integrated module designed to be assembled on the bench with device(s)-under-test before inserting in the vacuum enclosure, through a vacuum feedthrough, and connecting to the thermal subsystem by a proprietary technique that involves simply turning a knob. The vacuum enclosure does not need to be opened to perform any electrical or mechanical connections inside the cryostat, allowing rapid turnaround in prototyping.

Also, since an insert fits in any ICE-T system, it can be transferred from one laboratory to another without disassembling the device-under-test. This facilitates demonstration to a third party test-and-evaluation team without requiring any cryogenic engineering.

Finally, the modular design of inserts allows maximum flexibility and convenience for experiments. One can change only one insert while leaving the other undisturbed, permitting two independent experiments to be hosted without interference. The inserts can be custom-designed, tailored to specific experimental projects, or chosen from a set of standard inserts, and as different needs arise for different projects in the future, one only needs an additional ICE-T insert, instead of a completely new system.
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.

<table>
<thead>
<tr>
<th>List the other vendors who were contacted. Please describe the specs/qualifications/criteria that the other vendors were unable to satisfy.</th>
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</thead>
</table>

TO Prof. Marek Osinski  
Gardner-Zemke Professor of Electrical and Computer Engineering,  
Physics and Astronomy, and Computer Science  
Center for High Technology Materials  
University of New Mexico  
1313 Goddard SE, Albuquerque, New Mexico 87106-4343  
Tel. (505) 272-7812, Fax (505) 272-7801  
Email: osinski@chtm.unm.edu

<table>
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<tr>
<th>TECHNICAL POINT OF CONTACT</th>
<th>JOB</th>
<th>PAYMENT TERMS</th>
<th>DUE DATE</th>
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| Dr. Deepnarayan Gupta       | Integrated Cryo-Electronic Testbed (ICE-T) | 50% at receipt of order  
50% after delivery | 6 months after receipt of order |

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<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT PRICE</th>
<th>LINE TOTAL</th>
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| 1    | Integrated Cryo-Electronic Testbed (ICE-T): A custom-designed cryo-cooled testbed for electronics.  
• Includes, one (1) customized Opto-electronic Insert, configured to agreed customer specifications and comprising custom cabling.  
  ∪ The insert will include two fiber-optic feedthroughs, RF and DC connectors and two variable temperature stages for mounting devices under-test  
• Includes installation at customer site  
• Cryogenic devices-under-test are not included and are assumed to be the customer’s responsibility. | $ 325,000 | $ 325,000 |
| 1    | 48-channel programmable Current Source HYPRES CS-48-100  
• Regular price $40,000. Includes $5,000 discount for purchase together with ICE-T | $ 35,000 | $ 35,000 |

TOTAL $ 360,000

Quotation prepared by: ____________________________

To accept this quotation, sign here and return: ____________________________

THANK YOU FOR YOUR BUSINESS!