29 July, 2026

Request for Information (RFI)/Sources Sought
No. 04152025-CAB
120 kW 49 MHz Circulator for the Bunch Splitting RF System of the EIC's Hadron Storage Ring

To all Potential/Interested Suppliers,

Brookhaven Science Associates, LLC (herein known as "BSA"), operator of Brookhaven National Laboratory (BNL) under a Prime Contract with the U.S. Department of Energy (DOE), is seeking expressions of interest from firms regarding three (3) 120 kW 49 MHz circulators for the bunch splitting radio-frequency (RF) system of the Electron-Ion Collider (EIC)'s hadron storage ring, as outlined in the following attachments:

Attachment A – Statement of Work, EIC-RFS-SOW-015
Attachment B- Technical Specification, EIC-RFS-SPC-012

Please note that this is an RFI/Sources Sought notice, not a Request for Proposal, and no solicitation exists at this time.

This RFI is for informational and planning purposes only and is not to be construed as a commitment by the U.S. Government, nor will the U.S. Government pay for information received. The information from this notice will help the Department of Energy (DOE) Office of Basic Energy Sciences (BES) survey available resources.

Background:
The EIC is a Nuclear Physics Facility being built at Brookhaven National Laboratory that will store intense bunched beams of relativistic electrons and hadrons in two opposing particle storage rings and bring the bunches into collision at a large experimental detector. The collisions will provide insight into the internal structure of protons and neutrons and the gluelike force that holds them together.

The EIC accelerator complex comprises about hundred (100) radiofrequency (RF) cavities designed to perform different functions through their interaction with the circulating beams. The cavities operate at frequencies spanning a broad range, from 24.6 MHz up to 2.8 GHz. For example, the EIC hadron storage ring includes a 49.2 MHz RF system used for bunch splitting. This system consists of three (3) RF cavities, each fed by its own 120 kW power amplifier through a 6-1/8" coaxial transmission line. The transmission line will include a circulator and a dummy load to absorb any power reflected by the RF cavity, thereby protecting the power amplifier and the coaxial transmission line.

Please provide the following information:

1) Does your company have the capabilities and experience within the last 5 years in producing similar circulators as outlined in the attachments? Please indicate the industry, project or

facility of the customers, as well as frequency and power rating of the circulators provided by your company.

2) Which testing capabilities do you have? Do you have capability to conduct high-power testing at your premises?

3) Provide a technical description on how the unit handles pulsed vs CW operation and its response to the pulsed one?

4) Lead times:
   a) Provide a breakdown of the time expected for the non-recurring engineering and the production phases.
   b) How early could you deliver on the first unit?
   c) What would be the time between delivery of units?

5) What is the minimum order quantity?

6) How would the cost differ if we order one (1) unit with option for two (2) additional units versus ordering three (3) units?

7) In the case that BSA wants to include a hold point after the delivery of the first unit to perform a high-power RF test validation:
   a) What would be the additional charge for including a hold point?
   b) What would be the additional charge for a possible redesign driven by the result of this validation, and
   c) What would be the estimated time needed to resume manufacturing work for the remaining units?

8) What is the period validity of your proposal? Is your proposal firm for 120 days?

9) Would a change in quantities drive significant pricing and lead time changes?

10) Does your company have manufacturing capabilities in the US?

We are open to all information you can and care to provide at this point. Please provide responses to BSA no later than August 14, 2026.

BSA prefers electronic submissions of submittals. Electronic submissions will be accepted by the following method:

> Email submissions should express your interest and describe your capabilities related to delivering this product. Emails shall be sent to Eric Nagel, enagel@bnl.gov with the BSA RFI 04152025-CAB in the Subject Line.

We trust that the information contained herein is sufficient to permit your company to prepare a submittal outlining:

1) your capabilities
2) estimated lead times
3) compliance matrix listed in Section 1 Table
4) budgetary pricing listed in Section 2 Table

Should you have any questions, please contact the undersigned.

Sincerely,

Eric Nagel
Contracts Administrator
PPM EIC
Procurement & Property Management Division
Office: 631.344.4621
enagel@bnl.gov

Brookhaven National Laboratory

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1. **Table- Statement of Work (SOW)/ Technical Specification Compliance Matrix**
   RF Window/Antenna 2400M0000 for the Fundamental Power Coupler (FPC) of the EIC's Electron Storage Ring 591 MHz Single-Cell Cavities:

Section	Section Description	Comply Yes or No?
SOW 1		
SOW 1.1		
SOW 2		
SOW 3		
SOW 3.1		
SOW 3.1.1		
SOW 3.1.2		
SOW 3.1.3		
SOW 3.1.4		
SOW 3.1.5		
SOW 3.1.6		
SOW 3.2		
SOW 3.2.1		
SOW 3.2.2		
SOW 3.3		
SOW 3.3.1		
SOW 3.3.2		
SOW 3.3.3		
SOW 3.3.4		
SOW 3.3.5		
SOW 3.4		
SOW 3.4.1		

SOW 3.4.1.1		
SOW 3.4.1.2		
SOW 3.4.2		
SOW 3.4.2.1		
SOW 3.4.2.2		
SOW 3.4.2.3		
SOW 3.4.3		
SOW 3.4.3.1		
SOW 3.5		
SOW 3.5.1		
SOW 3.5.2		
SOW 3.5.3		
SOW 3.5.4		
SOW 3.6		
SOW 4		
SOW 4.1		
SOW 4.2		
SOW 4.3		
SOW 4.4		
SOW 4.5		
SOW 4.6		
SOW 4.6.1		
SOW 4.6.2		
SOW 4.7		
SOW 4.8		
SOW 5		
SOW 6		
SOW 7		
SPC 1		

SPC 1.1		
SPC 1.1.1		
SPC 2		
SPC 3		
SPC 3.1		
SPC 3.1.1		
SPC 3.1.2		
SPC 3.2		
SPC 3.2.1		
SPC 3.2.2		
SPC 3.2.3		
SPC 3.2.4		
SPC 3.2.5		
SPC 3.3		
SPC 3.3.1		
SPC 3.3.2		
SPC 3.3.3		
SPC 3.3.4		
SPC 3.3.5		
SPC 3.3.6		
SPC 3.3.7		
SPC 3.3.8		
SPC 3.3.9		
SPC 3.3.10		
SPC 3.4		
SPC 3.4.1		
SPC 3.4.2		
SPC 3.5		
SPC 3.6		

SPC 4		
SPC 4.1		
SPC 4.2		
SPC 4.2.1		
SPC 4.2.2		
SPC 4.2.3		
SPC 4.2.4		

2. **Table- Budgetary Pricing**

Description	Quantity	Price Per RF Window/Antenna	Total Cost
First Article of Inspection (FAI)	2		
RF Window/Antenna (2400M0000)	6-8		
Options	12		
Total=	**8-22**		