

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NASA SHARED SERVICES CENTER

RECOMMENDATION AND DETERMINATION TO SOLICIT FROM ONE SOURCE
OR BRAND NAME

PICK ONE

Sole Source:

☒ I recommend that NASA, NASA Shared Services Center negotiate with Penn State only for Development of Zirconium Carbide and superior high temperature ceramics for nuclear fission applications. The total estimated cost of this effort is [REDACTED] and the estimated period of performance is 3 months.

OR

Brand Name Justification:

☐ I recommend that NASA, NASA Shared Services Center negotiate with only with vendors who can provide the subject brand name from Manufacture Name for Enter Supply or Service to be procured. The total estimated cost of this effort is Enter Dollar amount and the estimated period of performance or lead-time for delivery is Date.

This recommendation is for the acquisition of supplies or services determined to be reasonably available from only one source/only one manufacture. Competition is impractical for the following reasons (please answer the questions below):

1. **What are the reasons for soliciting only the suggested source/suggested brand name?** Please provide the unique characteristics of the items or services along with the supporting rationale and the market research performed to substantiate your reason for the suggested source/brand name.

NASA Langley Research Center has been working with Penn State for the development of unique and exotic material composites and alloys using Field Assisted Sintering Technology for more than a decade. Penn State under the previous award has produced innovative world class HfC and TaC for ultra High Temperature applications and these materials are being tested on the International Space Station under the MISSE 21. Similarly, under the later awards, [REDACTED], Penn State fabricated highly innovative copper diamond alloy with excellent and first of its kind characteristics for heat spreader applications. As such, the proposed effort will leverage the expertise gained for the development of previous composites for NASA applications.

2. **What is the impact to the government if another vendor/brand is used?** Include any dollar, schedule, or compatibility impacts if possible.

Penn State's Advanced Research Lab (ARL) is a US NAVY funded facility with industrial grade FAST devices for developing unique and exotic material composites. Penn State possesses instrumentational capability and relevant experience to produce novel materials at lower costs expeditiously. Penn State has a proven record of producing novel materials for unique and challenging applications. Going to another vendor is very risky in terms of cost, schedule and meeting NASA objectives.

ADDITIONAL COMMENTS: None

[REDACTED]
Technical User Name

8/30/2026
Date