

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
INFORMATION TECHNOLOGY PROCUREMENT OFFICE (IT PO)
INFORMATION TECHNOLOGY PROCUREMENTS ON DEMAND TEAM (IT POD)
JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC)
For 80TECH22Q0039 DWL(Direct Write Lithography) 66+ Maskless Lithography
System

1. **Federal Acquisition Regulation (FAR) 6.303-2(b)(1) – Identification of the agency and the contracting activity, and specific identification of the document as a “Justification for other than full and open competition.”**

This document is a justification for other than full and open competition prepared by National Aeronautics and Space Administration (NASA) Information Technology Procurement Office (ITPO).

The procuring agency is the National Aeronautics and Space Administration (NASA) and the contracting activity is ITPOD Team.

2. **FAR 6.303-2(b)(2) – The nature and/or description of the action being approved:**

This justification provides the rationale for contracting by other than full and open competition to award a sole-source contract 80TECH22Q0039 with Heidelberg Instruments for its high-resolution direct-write pattern generator.

3. **FAR 6.303-2(b)(3) – A description of the supplies or services required, to meet the Agency’s needs (including the estimated value):**

The DWL 66+ is ideal for research and development in microelectronics, microfluidics, sensors, non-standard substrates, advanced packaging, specifically — virtually any optics / electronics device application that requires microstructure fabrication. The DWL 66+ features a unique Grayscale Exposure Mode capable of creating complex 2.5D microstructures such as micro-optics for mobile applications, diffraction optical elements (DOE), computer-generated holograms, and structured surfaces. This system will be used to take over/replace the existing DWL 66FS system at NASA Langley’s Research Center located within the ISO5 cleanroom, which was previously procured on contract NNL08AD23P as a Sole Source to Heidelberg Instruments in 2008. The estimated value is [REDACTED]

4. **FAR 6.303-2(b)(4) – An identification of the statutory authority permitting other than full and open competition:**

The statutory authority permitting other than full and open competition for acquisitions using the procedures in FAR subpart 13.501 is 41 U.S.C. 1901 for sole source (including brand

name). Only one responsible source and no other supplies or services will satisfy agency requirements (10 U.S.C. 2304(C) (1)).

5. FAR 6.303-2(b)(5) – A demonstration that the proposed contractor’s unique qualifications or the nature of the acquisition requires use of the authority cited:

The rationale supporting the use of 10 U.S.C. 2304(c)(1) is the property or services needed by the agency are available from only one responsible source or only from a limited number of responsible sources and no other type of property or services will satisfy the needs of the agency as described below.

The existing lithography system, a Heidelberg DWL 66FS, has been in use since 2007, and a large archive of historical drawings/data sets – that are still useful – has been built up over the years. Purchasing another system from a competitor wouldn’t guarantee that the archived data sets would be fully readable/executable by the new system, and we would run the risk of losing access to valuable data. Keeping this risk of loss of compatibility in mind, it isn’t possible to estimate the cost in time and productivity if we were required to recreate these historical data files that were developed on the current system. We have already converted over 500 CIF files at this resolution for use on our existing system, and it would not be necessary to repeat this process if we purchased the DWL 66+. Purchasing a different system from another manufacturer would require the wide-scale reconversion of all of these existing CIF files (+500 days of effort) before they could be used on another system. This would be a high impact on schedule and funding for the supported research efforts across the Agency.

6. FAR 6.303-2(b)(6) – A description of the efforts made to ensure that offers are solicited from as many potential sources as practicable, including whether a notice was or will be publicized as required by Subpart 5.2 and, if not, which exception under 5.202 applies:

A notice to the Government Point of Entry (GPE) website (Sam.gov) was published on September 7, 2022 in accordance with FAR Subpart 5.2. This posting informed potential sources of NASA’s intent to award this sole-source contract to Heidelberg Instruments. The results of this synopsis are summarized in Section 10 below.

7. FAR 6.303-2(b)(7) – A determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable:

The Contracting Officer’s signature on this document indicates that the Contracting Officer has determined that the anticipated cost to the government will be fair and reasonable. Prior to execution of the contractual instrument, a proposal analysis will be performed in accordance with FAR 15.404. The proposal analysis will be used to verify that the total proposed price is fair and reasonable.

8. FAR 6.303-2(b)(8) – Description of the market research conducted, and the results, or a statement of the reasons a market research was not conducted:

Query of Government and/or commercial databases for relevant information was conducted by the Agency. It was discovered that Heidelberg Instruments does not have a NASA SEWP contract or a reseller on NASA SEWP that can provide these products. Furthermore, this item is not available via GSA ebuy.

9. FAR 6.303-2(b)(9) – Any other facts supporting the use of other than full and open competition:

The DWL 66FS system at NASA Langley's Research Center was previously procured on contract NNL08AD23P as a Sole Source to Heidelberg Instruments in 2008.

10. FAR 6.303-2(b)(10) – A listing of the sources, if any, that expressed an interest in writing in the acquisition:

A notice of NASA's intent to award this sole-source action was synopsized on the GPE website (Sam.gov) per FAR Subpart 5.2 (See Section 6 above). A notice of intent was posted on SAM.gov on September 7, 2022 for fifteen days, closing September 22, 2022. On September 16, 2022, Heidelberg Instruments Technical Sales Engineer Gregg Moore submitted quote number 22-90-02330-5. The quote is in compliance with all NASA Langley Requirements (objective, characteristics, scope/specs and place of performance) however period of performance is not met. The estimated delivery is 8 months from receipt of order which two months longer, six months, which is noted in the SOW. I have reached out the customer and they understand and accept the suppliers justification on supply chain shortages, they would like to proceed.

11. FAR 6.303-2(b)(11) – A statement of actions, if any, the agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required:

The Agency will continue to examine the market in the future for alternative solutions or new sources before executing any subsequent acquisitions for the same requirements.