NSWC-PHD-JA-22-73
Code: 0243
20 July 2022

JUSTIFICATION AND APPROVAL
FOR USE OF OTHER THAN FULL AND OPEN COMPETITION

JUSTIFICATION

1. Contracting Activity

The Naval Sea Systems Command, Naval Surface Warfare Center, Port Hueneme Division (NSWC PHD).

2. Description of the Action Being Approved

NSWC PHD intends to award a Brand Name Contract on a Firm-Fixed-Price basis for the purchase of XILINX branded Field Programmable Gate Array (FPGA) part numbers XC6SLX16-2CSG324I Quantity 10,000, XC6SLX25-2FGG484I Quantity 5,000, and XC6SLX16-3CSG324I Quantity 5,000. This hardware will be used in various Circuit Card Assembly (CCA) of the MK 41 Vertical Launching System (VLS).

3. Description of Supplies/Services

NSWC PHD and Air Dominance Department (Code A107) have a requirement for XILINX FPGAs to be used in various CCAs for use in the MK 41 VLS. The MK 41 VLS is a surface ship combatant missile launcher that stores and launches a variety of missile types. Below is the list of CCAs which utilizes the FPGAs:

Cell Control Module (CCM): Process all commands and responses associated with a missile launch for one cell/subcell.

Hazard Control Module (HCM): Processes inputs from cell/subcell sensors (missile fuel leak, aft closure rupture, and canister over temperature) and LSEQ over temperature.

Motor Command Controller (MCC): Control all uptake and cell hatch motor functions.

Built-In-Test (BITE) Monitor CCA: Controls timing, sequencing, multiplexer addressing, and latching of BITE RESULT display A15. Forms part of the BITE monitor subsystem for fault isolation.

Plenum Drain Valve/Anti-Icing (AI): Processes inputs from the LSEQ and water--level sensors to open or close plenum drain valve.

MCM (MCP (Motor Control Panel) Control Module) Multiplexer CCA: Process addressing and enable inputs from BITE monitor data processor card A9A20 and form part of the BITE monitor subsystem for fault isolation.

The Government’s minimum needs have been verified by the certifying technical and requirements personnel.

The total estimated value of the requirement is $1,536,300.00 and is composed of the following funding sources reflected in Table 1 below:

Table 1: Estimated Dollar Value

Fund Type	Year: FY22	Total Price
SCN	[redacted]	[redacted]

4. Statutory Authority Permitting Other Than Full and Open Competition

10 U.S.C. Section 2304(c)(1), as implemented by the Federal Acquisition Regulation (FAR) 6.302-1(a)(2), only one responsible source and no other supplies or services will satisfy agency requirements.

5. Rationale Justifying Use Of Cited Statutory Authority

MK 41 VLS has tested and integrated these XILINX FPGA components for use in various CCAs of VLS. The Government conducted a trade study early in the program, in which the Program Office, Technical Design Agent (TDA), and Design Agent determined that the use of the XILINX FPGA components in the CCAs are the only technically viable option that meet requirements to support the VLS platform. This was based on anticipated components availability due to the components lifecycle and resource headroom to support additional features. Specifically, trade studies on other brands were conducted and were deemed to not be able to meet the required schedules since our firmware is written to XILINX FPGA components. FPGA components are not interchangeable and, therefore, the use of another brand would require extensive rewrite of the firmware. Without the required and qualified XILINX FPGA for use in the CCAs, the Government cannot have a functional Launching System, which will degrade the state of the system, and directly impact the fleet's capability to launch missiles.

An attempt to identify and qualify alternate brands that can meet the requirements will cause a substantial duplication of cost of approximately $2,000,000.00 that is not expected to be recovered through competition. The $2,000,000.00 estimate derives from Baseline VII Tech Refresh efforts from 2011-2016 which included taking steps to ensure that any new sources are capable of producing a product that meets the established performance requirements, which include the Government incurring costs to conduct First Article Tests, Confidence and Functional testing for form, fit and function. Furthermore, the costs include Software program modification, Shock and Vibration testing, and, if the alternate part is determined to be qualified, updates to all applicable documentations through Engineering Change Process (ECP) to introduce the new alternate part.

6. Description of Efforts Made to Solicit Offers from as Many Offerors as Practicable

The components are commercial items and can be purchased via any authorized distributor. Market research was conducted through mandatory sources; Ability One, GSA, and Unicor with no vendors found. The requirement generator did conduct market research to known authorized resellers; Mouser Electronics, Digi-Key Corporation, and Newark. Each provided pricing information in

support of requirement. Source Sought was posted from 6/16/2022 – 6/30/2022 that yielded one response from Alliance One Group results of capable vendor.

7. Determination Of Fair And Reasonable Price

The Contracting Officer has determined that the anticipated cost to the Government for the supplies covered by this J&A is fair and reasonable.

8. Actions To Remove Barriers To Future Competition

For the reasons set forth in Paragraph 5, NSWC PHD has no plans at this time to compete future contracts for the types of supplies covered by this document. If another potential source emerges, the Government will assess whether competition for future requirements is feasible.

CERTIFICATIONS AND APPROVAL

TECHNICAL/REQUIREMENTS CERTIFICATION (FAR 6.303-2(c))
I certify that the facts and representations under my cognizance, which are included in this justification and its supporting acquisition planning data, except as noted herein, are complete and accurate to the best of my knowledge and belief.

TECHNICAL COGNIZANCE:

[redacted]

Date

REQUIREMENTS COGNIZANCE:

[redacted]

Date

LEGAL SUFFICIENCY REVIEW (NMCARS 5206.303(90))

I have determined this justification is legally sufficient.

[redacted]

Date

CONTRACTING OFFICER CERTIFICATION (FAR 6.303-2(b)(12))

I certify that this justification is accurate and complete to the best of my knowledge and belief.

[redacted]

Date

APPROVAL BLOCK (FAR 6.304 for Approving Official)

Upon the basis of the above justification, I hereby approve, as Competition Advocate for the Procuring Activity the solicitation of the proposed procurement(s) described herein using other than full and open competition, pursuant to the authority of 10 U.S.C. 2304(c)(1).

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Date: 2022.07.22 13:52:19 -07'00'

Eric Ford
Deputy Chief of the Contracting Office
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