

Request for Quote N6227115Q1364
Research for the Replenishment at Sea Planner (RASP)

This Request for Quote (RFQ) is for commercially available review, assessment, and technical documentation services in accordance with the statement of work below. This RFQ is prepared in accordance with the format in FAR 13: Simplified Acquisition Procedures and supplemented with additional information included in this notice.

Anticipated award will be a Firm-Fixed Price (FFP) purchase order.

Instructions for Submission of Proposals:

Contractor's quote is due 8/24/2015, 5:00 P.M. PST and shall be valid for 30 days via email to the Contract Specialist.

Note: The proposed contract action is for services for which the Government intends to solicit and negotiate with one source, Washburn, Alan, under the authority of FAR 6.302-1. This notice is not a request for competitive proposals. Please see Justification and Approvals document for additional information regarding the sole source nature of this acquisition.

Volume 1: Price

CLIN	Description:	QTY:	UOM:	Unit Price:	Total Price:
0001	Verification Tests	1	LOT	\$	\$
0002	Revised RASP Code	1	LOT	\$	\$
0003	Proofs of RASP algorithms	1	LOT	\$	\$
0004	Mathematical Proof Documents	1	LOT	\$	\$
0005	White Paper	1	EA	\$	\$
				Total Price:	\$

All tasks shall be completed in accordance with the statement of work below and meet the defined acceptable quality level. For informational purposes, please provide the following information:

Labor Category:	Labor Rate:	Estimated Labor Hours:

Volume 2: Technical:

Technical submission shall include resume of contractor employee(s) intended for the effort / candidates qualifications, addressing technical requirements as specified in section 5.0 below. Limit submission to 20 pages and 2MB.

Statement of Work (SOW)

Research for the Replenishment at Sea Planner (RASP)

Naval Postgraduate School Department of Operations Research

1.0 Background/Introduction

The Replenishment at Sea Planner (RASP) has been developed for Military Sealift Command and Office of Naval Research. RASP is installed and operated by Commander, Task Force (CTF) 53 (Bahrain, 5th Fleet) and Commander, Task Force (CTF) 73 (Singapore, 7th Fleet). It is used to schedule Combat Logistic Force supply shuttle ships that serve our combatants and coalition partners. Central to RASP is the repetitive computation of the shortest route from one wet point in the ocean to another, without running aground. These potential wet points cannot be enumerated because it is not possible to predict beforehand where ships might be when the need arises for resupply. Therefore, it is not possible to make shortest route calculations in the conventional manner. Furthermore, because the earth's shape is spherical, the routing problems are essentially spherical. RASP, however, assumes a planar environment, which may or may not be a good assumption because of the large distances involved in the 5th and 7th Fleet areas of operation. It is important to be able to make these computations quickly (one millisecond or less) because of the need to make thousands of such comparisons for any given planning scenario in quick, elapsed time, while the planner waits for screen-refreshed results, and the RASP planar assumptions incorporates codes and algorithms to accomplish the quick calculations. We need to verify, however, that the algorithms and code provide a reasonably accurate result. Hence, a thorough review, assessment, documentation, edit, and validation of the code are necessary. Assessment requires that certain "theorems" currently employed by the code need to be proven; editing requires changing the code as necessary.

2.0 Scope

The Operations Research Department at the Naval Postgraduate School has an immediate requirement for contractual services to thoroughly review, assess, edit (as necessary), document, and validate the RASP code. Based on the research results, a more efficient model must be developed if the current one proves to be fundamentally in error.

3.0 Tasks

The contractor shall perform the following tasks:

- 3.1** Review the RASP code.
- 3.2** Develop a series of verification tests to assess RASP output.
- 3.3** Investigate unexpected output and make corrections by editing the code; test and reverify RASP output.

3.4 Assess each of the RASP routing algorithms; develop mathematical proofs for all.

3.5 Document all mathematical proofs.

3.6 Validate by drafting a white paper that articulates the research effort including the mathematical proofs. Deliver to the Operations Research Department Chairman.

4.0 Deliverables

The contractor shall be responsible for preparing deliverables in support of the tasks identified in this SOW.

4.1 White paper suitable for publication in a refereed journal, with the mathematical proofs included as an appendix.

Performance Work Summary

Task	What will be inspected	Acceptable Quality Level (AQL)	Frequency
3.2	Verification tests.	Mathematically appropriate. To be delivered to NPS Technical Point of Contact (TPOC).	Weekly updates.
3.3	Revised code.	Mathematically appropriate.	As discovered.
3.4	Proofs of the RASP algorithms.	Proofs must be correct.	Weekly updates.
3.5	Mathematical proof documents.	Included in the White paper.	As necessary.
3.6	White paper.	Suitable for publication in a refereed journal.	At the end of the research.

The surveillance method for the deliverables listed above will be personal observation by the NPS Technical Point of Contact. If performance falls below the AQL defined above, the Contracting Officer's Representative (COR) shall document the instance(s), coordinate with the Contracting Officer and advise the Contractor. The Contractor will be requested to review the documentation and provide a written response on how performance will be corrected in the future. Re-performance of any work for failure to perform in accordance with the specified AQL or task requirement shall be completed at the Contractor's own expense and at no additional cost to the Government.

5.0 Minimum Technical Requirements

- The minimum educational requirement is a Ph.D. in Operations Research or a closely related academic field, such as Mathematics or Engineering.

- The contractor must have a strong academic background in Linear Programming, Network Flows, Probability, and Spherical Geometry.
- The contractor must have extensive research experience in operations research methods; particularly optimization, networks, and probability.
- The contractor must have a demonstrated record of original research, with a publication record of proving mathematical theorems. Publications include books and articles in well-known, refereed, open-literature journals.
- The contractor must have experience in designing, implementing, testing, and documenting mathematical algorithms in a computer language, such as Visual Basic.
- The contractor must have a SECRET clearance.

6.0 Period of Performance

Date of Award – 4 December, 2015

7.0 Place of Performance

Naval Postgraduate School, Glasgow Hall.

8.0 Work Week and Hours of Operation:

The Contractor shall provide services during normal working hours excluding federal holidays. Normal working hours are 0730-1630, Monday through Friday, unless requirements dictate otherwise. Exceptions can be permitted by the COR upon request and at the COR's discretion.

Work required on-site at NPS shall be performed by the Contractor, as required.

Following is a list of holidays observed by the Government.

<u>Name of Holiday</u>	<u>Time of Observance</u>
New Year's Day	1 January
Martin Luther King Jr. Day	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veteran's Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

If any of the above holidays occur on a Saturday or a Sunday, then such holiday shall be observed by the Contractor in accordance with the practice as observed by the assigned Government employees at the using activity

9.0 Government Furnished Property

The contractor will be given an office in which to work. The office will contain an appropriate computer, telephone, internet access, desk, chair, and bookshelves to support research.

10.0 Travel

Travel is not required.

11.0 Classification

Secret– U.S. citizenship required.

12.0 Privacy Act Statement

“Pursuant to Title 5 United States Code 552a(m)(1), the contractor and all employees of the contractor working under this contract are required to comply with the requirements of 5 U.S.C. 552a (“The Privacy Act of 1974”).”

13.0 Contractor Identification

In accordance with DFAR 211.106, there shall be a clear distinction between Government employees and service contractor employees. Service contractor employees shall identify themselves as contractor personnel by introducing themselves or being introduced as contractor personnel and displaying distinguishing badges or other visible identification for meetings with Government personnel. In addition, contractor personnel shall appropriately identify themselves as contractor employees in telephone conversations and in formal and informal written correspondence.

14.0 Non-Personal Services Statement

Contractor employees performing services under this order will be controlled, directed, and supervised at all times by management personnel of the contractor. Contractor management will insure that employees properly comply with the performance work standards outlined in the SOW. Contractor employees will perform their duties independent of, and without the supervision of, any Government official or other Defense Contractor. The tasks, duties, and responsibilities set forth in the task order may not be interpreted or implemented in any manner that results in any contractor employee creating or modifying Federal policy, obligating the appropriated funds of the United States Government, overseeing the work of Federal employees, or otherwise violating the prohibitions set forth in Parts 7.5 and 37.1 of the Federal Acquisition Regulation (FAR). The Government will control access to the facility and will perform the inspection and acceptance of the completed work.

15.0 Invoice Schedule

Contractor may invoice upon acceptance of deliverables.

Invoices shall be submitted once a month for services rendered. All invoices need to be submitted electronically via Wide Area Workflow (WAWF) system. Hard copy invoices cannot be accepted. Only one invoice may be submitted per month. Invoices must identify the invoicing period. If charges against more than one line item have occurred during the invoicing period, all charges must be combined into one invoice. If invoicing against travel, the invoice must contain a summary detailing the charges as well as an attachment of supporting documentation. The contractor's failure to include the necessary information or a more frequent invoice submission than authorized will result in invoices being rejected.

Provisions and Clauses

The following FAR / DFAR clauses will become incorporated upon award:

- 52.204-99, System for Award Management Registration (Aug 12, by reference)
- 52.212-4, Contract Terms and Conditions- Commercial Items (Oct 08, by preference)
- 52.212-5 (Jan 09), Contract Terms and Conditions Required to Implement Statutes or Executive Orders- Commercial Items (by full text)
- 252.232-7003 – Electronic Submission Of Payment Requests And Receiving Reports (Mar 2008, by reference)

Additional clauses may be applied at time of award.

Contract Specialist:

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