



JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY

REQUEST FOR PROPOSAL

REQUEST FOR PROPOSAL NO.: JSL-71703

FOR:

**TECHNOLOGY DEVELOPMENT OF
MARS LANDING RADAR ANTENNA ARRAY**

PROPOSALS ARE TO BE RECEIVED AT JPL NO LATER THAN:

Date: September 12, 2003

Local Time: 3:00 p.m.

COMMUNICATIONS IN REFERENCE TO THIS RFP

It is requested that any communication in reference to this RFP be in writing and directed to the attention of:

Name:	Jane Lee	Mail Stop:	190-220
Title:	JPL Contract Negotiator	Phone:	(818) 354-1586
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Date of Issuance: August 15, 2003

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This Section of this RFP consists of those forms and documents containing information applicable to this RFP. Group A Attachments must be completed and attached to your proposal. Group B Attachments consist of forms and documents for informational purposes only. Both A and B Attachments can be found through the electronic address identified below. Hard copies of the Group B Attachments will be mailed by request only. Note that Group B Attachments are very important and may become requirements under the Contract.

World Wide Web: <http://acquisition.jpl.nasa.gov/e2000.htm>

SPECIMEN CONTRACT, Dated July 17, 2003

GENERAL INSTRUCTIONS

1.0 PROPOSAL REQUIREMENT

The effort to be performed will be in accordance with the Specimen Contract; if you choose to submit more than one proposal for this effort, each proposal must be independently complete and under separate cover.

2.0 PACKAGING AND SUBMITTING YOUR PROPOSAL

2.1 Organization and Format.

- 2.1.1 Your proposal, which should be organized as closely as practicable to the format and sequence indicated in these proposal instructions, must be submitted as outlined below. Please note that JPL has assigned a recommended page limitation to the individual proposal volumes.

All documents should be soft bound.

<u>Volume No./Title</u>	<u>Page Limit</u>	<u>Number of Copies</u>
Volume 1 – Technical/Management	25	7
Volume 2 – Cost/Attachments	N/A	7
Volume 3 – Past Performance	N/A	7

- 2.1.2 Unnecessarily elaborate brochures or presentation layouts, other than those sufficient to present a complete and effective proposal, are not desired. Except when specifically requested, mockups, models, samples, hardware, or software of any kind must not be furnished and will not be considered.
- 2.1.3 JPL reserves the right to retain all proposal information submitted in response to this RFP.

2.2 Address and Identification.

To help ensure timely receipt and processing of your proposal, please affix the enclosed yellow adhesive label to the envelope/container containing the complete original copy of your proposal. (NOTE: The yellow label is JPL's notification that the package you send is a proposal.) In case the mailing label is lost, address your proposal on a similar yellow label containing JPL's address, the name of the individual designated on the cover page of this RFP (including the mail stop) and the RFP number. All proposal envelopes/containers must be identified with the RFP number that appears on the RFP cover page.

2.3 Hand Carried Proposals.

Hand-carried proposals must be delivered to the California Institute of Technology/Jet Propulsion Laboratory (JPL) Visitor Control Center, at 4800 Oak Grove Drive, Pasadena, Building 249, where it will be received and time-stamped. Visitor Control is open to receive proposals only on working weekdays, between 7:30 a.m. and 4:30 p.m. (proposals are due at the time and date stated on the cover of this RFP).

3.0 GENERAL INFORMATION

3.1 Proposal Preparation and Related Costs.

This RFP does not commit JPL or the Government of the United States to pay any costs incurred in submitting your proposal, making studies or designs for preparing the proposal or in procuring or subcontracting for services or supplies related to the proposal.

3.2 Data.

If the proposal contains data that either you or your subcontractors do not wish to be disclosed for any purpose other than proposal evaluation, you must mark the cover sheet of each volume containing such information with the legend below:

- 3.3 “Data contained in pages _____ of this proposal furnished in connection with RFP No. (**) shall not be used or disclosed, except for evaluation purposes, provided that if a contract is awarded to this offeror as a result of or in connection with the submission of this proposal, JPL and the Government shall have the right to use or disclose this data to the extent provided in the contract. This restriction does not limit JPL’s right to use or disclose any data obtained from another source without restriction.”
(** *insert RFP number*)

3.4 Requests for Clarification/RFP Addenda.

During the proposal preparation period, all requests for clarification and/or additional information, must be submitted in writing to the individual referenced by “Attention:” on the cover page of this RFP. When appropriate, responses to requests, as well as any JPL initiated changes, will be provided to all prospective proposers in writing as addenda to the RFP. (NOTE: You must include reference to all addenda on your Acknowledgment to this RFP [Attachment A-1].)

4.0 LATE PROPOSALS

Any proposal, portion of a proposal, or unrequested proposal revision received at JPL after the time and date specified on the cover page of this RFP is late. Any volume of a proposal received after the time and date specified will cause the entire proposal to be late. Late proposals will not be considered for award, except under the following circumstances:

- 4.1 JPL determines that the late receipt was due solely to a delay by the U.S. postal service for which the offeror was not responsible. Timely postmark or receipt of registered, certified, or express mail "next-day service," establishing the time of deposit must be evidenced.
- 4.2 JPL determines that the proposal was late due solely to mishandling by JPL after receipt at JPL, provided that the timely receipt at JPL is evidenced.
- 4.3 No acceptable proposals are received in a timely manner.

If an emergency or unanticipated event interrupts normal JPL processes so that solicitation responses cannot be received at the JPL office designated for receipt by the exact time specified in the solicitation, and urgent JPL requirements preclude amendment of the solicitation closing date, the time specified for receipt of proposals will be extended to the same time of day specified in the solicitation on the first work day on which normal JPL processes resume.

5.0 CONTRACT OPTION

The Specimen Contract contains an Option Article. JPL will evaluate the proposer’s technical capability to perform the option as well as its price. The technical evaluation will be in accordance with paragraph 6 of these instructions. The total price for the option will be added to the total price for the basic requirement.

6.0 SOURCE EVALUATION AND SELECTION PROCESS

6.1 Source Evaluation.

Proposals will be evaluated in the areas of technical and management as described in paragraph 8 below. Although price will not be scored, it is of approximately equal importance to the combined technical and management areas; therefore, price is a substantial factor in source selection. JPL plans to make source selection based on the offeror whose proposal is determined to represent the best value to JPL. JPL's best value source selection is based on the following: If all offers, in the competitive range, are of approximately equal qualitative merit, JPL will select for negotiations the offer with the lowest price. However JPL may select for negotiations a contractor whose proposal offers a higher qualitative merit if the difference in price is commensurate with added value. Conversely, JPL may select for negotiations a contractor whose proposal offers a lower qualitative merit if JPL determines that the price differential between it and other offers so warrants. JPL will evaluate the proposals utilizing the following process:

- 6.1.1 Before issuing the RFP, JPL establishes specific criteria and their weighting for the evaluation. After receipt at JPL, the proposals are evaluated against the pre-set criteria outlined in Non-Price Criteria and Instructions.
- 6.1.2 Price proposals are reviewed for mathematical accuracy, rate application, price omissions, and price reasonableness. If the Buy American Act, the Balance of Payment Program, or rent free use of Government-furnished property applies, the prices will be adjusted as required for the purpose of evaluation.
- 6.1.3 Responsibility (i.e., consideration of matters such as contractor financial capability, past performance record, adequacy of facilities, etc.) is assessed within the meaning of Federal Acquisition Regulation 9.1. Award will not be made to a Contractor deemed to be nonresponsible.
- 6.1.4
 - 6.1.4.1 Results of the initial proposal evaluation are used to determine which proposals are within the competitive range (i.e., those having a reasonable chance of being selected for award). Proposals determined not to be within the competitive range are eliminated from further consideration, and the proposers are notified accordingly.
 - 6.1.4.2 JPL may, at its discretion, conduct limited communications with one or more proposer(s) for the purpose of determining whether the proposer should be included in the competitive range. Such precompetitive range communications may be conducted to enhance JPL understanding of proposal(s) and may be used to:
 - 6.1.4.2.1 Validate the proposed price; and
 - 6.1.4.2.2 Clarify omissions, ambiguities and uncertainties in the proposer's supplemental business/cost information; and
 - 6.1.4.2.3 Clarify relevant past performance information.
 - 6.1.4.3 JPL reserves the right to make a competitive range determination without conducting such communications. Further, JPL, at its discretion, may waive minor informalities and minor irregularities in proposals received.

- 6.1.5 JPL may make source selection after the initial proposal evaluation or may conduct discussions with the proposers determined to be within the competitive range. The purpose of the discussions is to assist the evaluators in fully understanding each proposal by:
- 6.1.5.1 Discussing those aspects of each proposal which contain omissions, ambiguities and uncertainties;
 - 6.1.5.2 Verifying and identifying strengths and weaknesses which could affect work performance;
 - 6.1.5.3 Verifying the validity of the proposed price; and
 - 6.1.5.4 Assessing the proposed personnel and the proposer's capabilities for performing the work.
- 6.1.6 After discussions, JPL may request price proposal deltas in order to correct errors, omissions or ambiguities in the proposal. Only those deltas requested by JPL will be accepted. (NOTE: JPL will not request best and final offers (BAFOs).)
- 6.1.7 Finally, the initial evaluation findings are reviewed and ratings are assigned which incorporate the results of the discussions and/or any price proposal deltas.

6.2 Selection Process.

The results of the final evaluation are submitted to the JPL Source Selection Official, who selects the Contractor(s) for negotiation.

- 6.3 JPL reserves the right to reject all proposals, to award a contract based on initial proposals (without proposal clarifications) or to conduct oral discussions prior to making source selection.
- 6.4 JPL may determine that a proposal is unacceptable if the prices proposed are materially unbalanced (e.g., between items [or prices or rates] in Article 2 of the Specimen Contract for which JPL will make separate payments or between prices for the basic contract work and option(s), if any. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if JPL determines that the lack of balance poses an unacceptable risk to JPL or the Government.

7.0 EXCEPTIONS TO GENERAL PROVISIONS AND ADDITIONAL GENERAL PROVISIONS

A large number of exceptions or one or more significant exceptions to the General Provisions and/or Additional General Provisions may make your proposal unacceptable for evaluation. **You must provide a detailed explanation, including the rationale, for any exceptions you take.** Proposers who submit proposals with exceptions may be selected for negotiations; however if an agreement cannot be negotiated, your proposal may be rejected.

8.0 TECHNICAL AND MANAGEMENT CRITERIA

The three (3) technical and management criteria and the weight for each are listed below. The factors shown under the criteria are not weighted for evaluation purposes and are not listed in any particular order of importance.

Criterion T-1. TECHNICAL APPROACH - 400 Maximum Points

The degree to which the proposer's technical approach will lead to the production of flight qualified antenna arrays that will operate satisfactorily in the specified environments, meeting or exceeding the applicable specifications and functional requirements of the Specimen Contract.

- Factor 1.** Design and Development Methodology
- Factor 2.** Heritage
- Factor 3.** Testing Methodology
- Factor 4.** Mission Assurance

Criterion M-1. RESOURCES - 300 Maximum Points

The degree to which the proposer possesses the management skill and key personnel necessary to successfully conduct this effort.

- Factor 1.** Management Approach
- Factor 2.** Capability and Availability of Key Personnel

Criterion M-2. RELEVANT FLIGHT-QUALIFIED EXPERIENCE - 300 Maximum Points

The degree to which the proposer's related experience is directly applicable and will contribute towards manufacturing flight-qualified antenna array that will meet the requirements of the Specimen Contract.

- Factor 1.** Related Experience in Space Borne Missions
- Factor 2.** Existing Manufacturing Facilities
- Factor 3.** Materials

VOLUME 1 – TECHNICAL/MANAGEMENT INSTRUCTIONS

1.0 INTRODUCTION – TECHNICAL/MANAGEMENT

This portion of the proposal instructions sets forth the requirements to be followed in preparing the Technical/Management Proposal. The following specific information must be included to permit an evaluation of your technical capabilities:

Volume 1 of your submittal shall contain the following section:

Section T – 1. Technical Approach

Section M – 1. Resources

Section M – 2. Relevant Flight-Qualified Experience

In each appropriate section, please provide the following specific information to permit an evaluation of your technical and management capabilities. The individual topics identified under each factor are considered key evaluation issues.

1.1 SECTION T – 1. TECHNICAL APPROACH

This criterion is based on the degree to which the proposer's technical approach will lead to the production of flight qualified antenna arrays that will operate satisfactorily in the specified environments, meeting or exceeding the applicable specifications and functional requirements of the Specimen Contract.

Design and Development Methodology

Describe the methodology for the design and development of flight qualified antenna array to meet technical specifications presented in the Specimen Contract. Address in particular the expected performance characteristics of the antenna elements as identified in Exhibit I, Table 1 of the Specimen Contract and the array (i.e. cross-talk and fabrication accuracy). Identify theoretical calculations and actual performance characteristics. Describe in detail the method of fabrication for the antenna array, and any details that may affect the positional accuracy of array elements, the thermal and mechanical characteristics of the array, and stages in the fabrication process that require significant amount of time in the array construction. Provide details that show how the proposed design meets the requirements specified in the Specimen Contract. Identify any unresolved design/development issues and describe your approach for resolution. Detail the extent to which these open issues might affect the delivery schedule outlined in the Specimen Contract. Describe, in detail where applicable, your manufacturing approach and process steps for the fabrication of the flight-qualified hardware. Describe the facilities and equipment that will be used and discuss their availability during the time period of the contract.

Heritage

Discuss the heritage of all proposed processes and materials that you intend to use and the rationale.

Testing Methodology

Discuss the test plans and procedures that you intend to use for verifying that your hardware deliverables meet the requirements in the Specimen Contract. Describe the test facilities, instrumentation, and equipment that you intend to use in developing the

prototypes and the flight hardware. Highlight any unique testing procedures that may be required to support this effort and provide your rationale for using these procedures.

Mission Assurance

Describe your approach relative to Quality Assurance (hardware and software), Reliability Engineering Electronic Parts, Radiation Effects, Configuration Management and Materials & Processes. Discuss your approaches to these disciplines to meet the requirements for the prototype and the flight hardware. Describe the process you intend to implement for flowing down JPL's requirements for this work effort. Describe the process you intend to implement for flowing down JPL's requirements to your suppliers. Describe your proposed closed-loop problem reporting system. Describe your risk management approach in detail. Indicate whether your proposed overall Mission Assurance program is currently being implemented at your facility. If not, describe which parts are not currently being implemented.

1.2 SECTION M-1. RESOURCES

This criterion is based on the degree to which the proposer's management approach provides for effective organization, implementation and monitoring and control of the effort.

Management Approach

Describe your intended management plan for executing the work effort in the Specimen Contract, addressing, as a minimum, the following:

- Project organization and functional roles.
- Detailed Work Breakdown Structure (WBS).
- Detailed project schedule, identifying project reserve and critical path.
- Management and control of technical performance, schedule, and technical/schedule margins.
- Intended subcontractors and subcontract management plans, including subcontracted test facilities.

Capability and Availability of Key Personnel

Identify, by name and function, your proposed key personnel. Discuss the percentage of time each of these individuals will be dedicated to this work effort, their availability, and their qualifications for their functional assignment. Provide resumes for your proposed key personnel.

1.3 SECTION M – 2. RELEVANT FLIGHT-QUALIFIED EXPERIENCE

This criterion is based on the degree to which the proposer's related experience is directly applicable and will contribute towards manufacturing flight-qualified antenna array that will meet the requirements of the Specimen Contract.

Related Experience in Space Borne Missions

Describe your company's past experience, over the past 10 years, building and providing flight-qualified hardware for space borne missions. Highlight those projects which are most similar to the one described in the Specimen Contract, and those which are most recent in your history. Describe your organization's related experience in performing manufacturing control procedures, quality assurance and reliability programs that are necessary for producing flight qualified antenna arrays that will meet the requirements of the Specimen Contract.

Existing Manufacturing Facilities

Describe existing facilities specialized in the construction of flight qualified hardware, with an emphasis on those parts of your facility that will be used for the development of the required flight-qualified antenna arrays. Describe the special testing at your facility that you perform on flight-qualified parts that will be used for the proposed effort.

Materials

Describe materials and manufacturing techniques that will be employed in the construction of the required flight-qualified antenna array. Describe any special considerations that have gone into the choice of materials, and their use in previous flight-qualified programs performed by your facility.

VOLUME 2 – COST INSTRUCTIONS

This portion of the proposal instructions outlines the requirements to be followed in preparing the cost proposal.

1.0 PROPOSAL PRICING

Provide a total price for each item listed in Article 2 of the Specimen Contract and for Option 1.

2.0 LIMITATION OF JPL’S OBLIGATION

The Specimen Contract contains an Article entitled “Limitation of JPL’s Obligation” which includes a funding JPL internal profile regarding JPL’s maximum termination liability during each phase of the program. A proposal which is conditioned on JPL’s agreement to an alternate termination liability profile may be rejected. Nevertheless, this does not mean that your budgeted costs must be proposed in accordance with this termination liability funding profile. You are free to propose your budgeted costs in any manner which satisfies the requirements of the contract. Once again, this will be a fixed-priced contract. You can therefore choose to assume some risk relative to accepting a contract with a fixed JPL termination liability funding profile.

3.0 SPECIAL TOOLING AND SPECIAL TEST EQUIPMENT

Describe each item of Special Tooling and Special Test Equipment proposed; indicate where and when each item is to be used and the extent of usage.

4.0 PROGRESS PAYMENTS

Progress payments will be allowed under this Contract in accordance with the Additional General Provision entitled “Progress Payments” or “Progress Payments (Small Business)” incorporated into the Specimen Contract.

5.0 PARTIAL PAYMENTS

JPL will allow partial payments on only those items so identified in Article 2 of the Specimen Contract. If your proposal is selected for negotiations and you choose to request partial payments, you must be prepared to provide sufficient additional data for JPL to determine the reasonableness of the partial payments.

6.0 SUPPLEMENTAL BUSINESS/COST INFORMATION

6.1 Financial Statement

Submit a copy of your annual financial statements for the last three years and any information regarding additional resources required to perform the proposed effort such as an established line of credit or other financial resource. If this information has recently been submitted to JPL resubmittal is not necessary, simply reference the applicable JPL RFP number under which the data was submitted.

6.2 License and Royalty Information

If your proposal contains costs for royalties or licenses, indicate the amount and be ready to furnish details.

6.3 Attachments

The Section of this RFP entitled “Attachments” consists of those forms and documents containing information applicable to this RFP. Group A Attachments must be completed

and attached to your cost proposal. Group B Attachments consist of forms and documents for informational purposes only and can be accessed via the electronic address provided below or through the RFP website. Hard copies of the Group B Attachments will be mailed by request only. Note that the Group B Attachments are very important and may be required under the Contract.

World Wide Web: <http://acquisition.jpl.nasa.gov/e2000.htm>

VOLUME 3 – PAST PERFORMANCE INSTRUCTIONS

1. INTRODUCTION

This portion of the proposal instructions sets forth the requirements to be followed in preparing your Volume 3, Past Performance, submittal. Please restrict your submittals to one page per contract.

As stated previously in the General Instructions of this RFP, JPL requires early submission of this Volume 3 by 3:00 P.M., local time, on **September 1, 2003**. Volume 3 may be submitted in letter form.

2. PAST PERFORMANCE

Provide a synopsis of all contracts similar to this work effort performed by your organization within the past five (5) years, including similar on-going efforts. List all work performed for JPL in the past five (5) years.

This synopsis, which must address all efforts discussed in your Volume 1 discussion under “Related Experience,” at a minimum, shall include the following customer contract information:

- (a) Contract number;
- (b) Description of effort performed under the Contract;
- (c) Customer name and current address;
- (d) Current cognizant contract administrator and technical contact;
- (e) Current telephone and fax numbers;
- (f) Period of performance;
- (g) Contract type;
- (h) Average number of personnel assigned to contract effort.
- (i) Initial and final cost or price.

Note: You are requested to inform the contact people for each referenced contract that JPL will be requesting information regarding your past performance and that their expedited cooperation is requested.

ATTACHMENTS TO THE RFP

The following attached forms and documents are organized into two major groupings:

1. Group A must be completed and returned as part of your quotation or proposal.
2. Group B are for information purposes only in preparing your quotation/proposal.

GROUP A – Complete these forms and return as part of your Volume 2 Price Proposal

Attachment Number	Title and Form Number
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A-1	Acknowledgment (form JPL 2384)
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GROUP B – For information only:

Attachment Number	Title and Form Number
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B-1	Waiver of Rights to Inventions (form JPL 62-301)
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