

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY

REQUEST FOR PROPOSAL

RFP NO. H-DIV35

FOR

DIVISION 35 MECHANICAL AND THERMAL ENGINEERING SUPPORT CONTRACT

DATE OF ISSUANCE: April 11, 2002

It is requested that communications in reference to this RFP be submitted in writing via the internet to the email address below.

PROPOSALS ARE TO BE RECEIVED AT JPL NO LATER THAN:

Date: **Monday, May 20, 2002**

Local time: **3:00 p.m.**

Location: California Institute of Technology
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91109-8099

Attention: Christine Horowitz,
Cognizant Negotiator
Mail Stop 201-203
Christine.I.Horowitz@jpl.nasa.gov

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GENERAL INSTRUCTIONS

1.0 PROPOSAL REQUIREMENT

The effort to be performed will be in accordance with the Specimen Contract, Cost Plus Fixed Fee, dated March 28, 2002.

2.0 PROPOSAL FORMAT

Your proposal shall consist of three volumes:

Volume I – Technical/Management Instructions

Volume II – Cost Instructions

Volume III – Past Performance

The first step shall be the submission of Volume III, Past Performance by the proposal submission date. The next step shall be the submission of Volumes I and II by the proposal submission date. Volume I shall be submitted as a set of viewgraphs.

The next step will be an oral presentation of the Volume I viewgraph package submitted to JPL. A JPL caucus and then a question and answer session covering all volumes will follow the presentation on the same day. The volumes of your proposal are to be submitted in accordance with the instructions of this RFP. The required documents, as set forth in the Attachments to this RFP, must be included in the cost volume.

3.0 SCHEDULE OF ORAL PRESENTATIONS

The sequence of presentations will be determined by JPL based on ease of travel and logistics. Only those organizations that have submitted a proposal, conforming to the requirements set forth in this RFP, by the due date will be requested to make an oral presentation. Oral presentations are expected to begin the week of June 10, 2002. A specific date and time for each presentation will be coordinated with individual proposers.

4.0 SUBMITTING YOUR PROPOSAL

4.1 Organization and Format for the Written Proposal

4.1.1 Your written viewgraph proposal, should be organized as closely as practicable to the format and sequence indicated in these proposal instructions. **It shall be prepared in viewgraph format and it is recommended that Volume I be limited to 40 pages, using fonts not smaller than Times New Roman 12 points. There is no recommended page limit for Volume II and III, however, Volume II must include only cost information; Volume III must include only Past Performance Information.** For each of the three volumes you should submit one hard copy and one electronic version in Word, Power Point, or Adobe Acrobat on either a Zip-Disk or CD Rom.

4.1.2 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.

4.1.3 JPL reserves the right to retain all proposal information submitted in response to this RFP.

4.2 Oral Presentation

4.2.1 JPL will send each proposer written questions concerning their Volume I – Technical/Management and Volume II – Cost Proposals three (3) calendar days before the scheduled date of each proposer’s oral presentation. Each proposer shall best decide how best to present the answer to each question. However the answer to these questions and any subsequent questions generated as a result of the oral presentation shall be addressed during the two (2) hour question and answer session (see paragraph 4.2.8 below).

4.2.2 Presentations shall address the information required by the Technical/Management Instructions. You may organize your presentation/allocate your time in any manner you see fit; keeping in mind, however, the relative weight of each evaluation criteria specified in paragraph 9.0 below and your ability to cover the material submitted.

4.2.3 The viewgraphs provided in Volume I are to be what is presented during your oral presentation, recognizing that some additional verbal explanation beyond the viewgraphs is sometimes needed to fully explain some issues or points. **Oral presentations shall be solely based on the material submitted by the proposal due date. Accordingly, the proposer shall use all viewgraphs, submitted as Volume I, in their oral presentation.**

4.2.4 There shall be a three (3) hour time limit placed on your oral presentation. JPL will formulate questions in writing during the presentation but will not interrupt the presenters during the oral presentation.

4.2.5 Following the oral presentation, your team will be given a statement of work. * For two (2) hours, including lunch, your team is to develop a technical approach and a Rough Order of Magnitude (ROM) estimate.

4.2.6 During this two (2) hour period, JPL will caucus to discuss and organize questions developed during the oral presentation. JPL will provide its questions to the proposer.

4.2.7 For one (1) hour your team will present the “proposal” for the statement of work. Focusing on the technical aspects, rather than cost, of the task.

4.2.8 A questions and answer session will be conducted with each proposer following the sample task exercise and will be limited to two (2) hours. In this session ALL questions, including those sent to proposers three (3) calendar days prior to the oral presentation, shall be addressed. The purpose of the question and answer session is to assist JPL in fully understanding each proposal by:

4.2.8.1 Discussing those aspects of each proposal which contain omissions, ambiguities and uncertainties;

* This statement of work will not be available for preview in advance of this exercise. The purpose of the improvisational exercise is to ensure that all proposers will have equal resources to formulate their technical approach and ROM estimate. This SOW may not be an actual task to be performed under the contract but will be representative of a task to be performed under the contract.

- 4.2.8.2 Verifying and identifying strengths and weaknesses which could affect work performance;
- 4.2.8.3 Verifying the validity of the proposed cost/price;
- 4.2.8.4 Assessing the proposed personnel and the proposer's capabilities for performing the work.
- 4.2.9 The total time for the entire session, including oral presentation, JPL caucus and question and answer session with proposers will not exceed eight (8) hours, including lunch.
- 4.2.10 The presentation will not be audio/video recorded by either the presenter or by JPL.
- 4.2.11 After discussions, JPL may request proposal cost 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)).
- 4.2.12 Finally, the initial evaluation findings are reviewed and ratings are assigned which incorporate the results of the discussions and/or price proposal deltas.

4.3 Address and Identification

Address your proposal 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.

4.4 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.

4.5 Other Proposal Transmission

Proposals will NOT be accepted by facsimile (fax) transmissions or by electronic mail (e-mail).

5.0 GENERAL INFORMATION

5.1 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.

5.2 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:

“Data contained in pages _____ of this proposal furnished in connection with RFP H-DIV35 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.”

5.3 Requests for Clarification / RFP Addenda

During the proposal presentation period, all requests for clarification and/or additional information, **must be submitted in writing via email prior to May 13, 2002** to the individual referenced by “Attention” on the cover page of this RFP. (The email address is christine.l.horowitz@jpl.nasa.gov). JPL responses providing additional information or clarification will be provided to all prospective proposers on the web site (<http://acquisition.jpl.nasa.gov/rfp/35engineeringsupport/>) as addenda to the RFP. (Note: You must include reference to all addenda on your Acknowledgement to this RFP [Attachment A-1].).

5.4 Significant Exceptions to the 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 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.

6.0 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 the 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:

- 6.1 JPL determines that the late receipt was due solely to a delay by the postal service involved 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.
- 6.2 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.
- 6.3 No acceptable proposals are received in a timely manner.

Note to Proposers: If an emergency or unanticipated event interrupts normal JPL processes so that solicitation responses cannot be received to 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.

7.0 SOURCE EVALUATION AND SELECTION PROCESS

7.1 Source Evaluation

Proposals will be evaluated in the areas of technical and management as described in paragraph 9.0 below. Although the cost factors e.g.) labor rates, overhead, general and administrative (G&A), and fee will not be scored, they are a substantial factor and is of equal importance to the combined technical and management areas. 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 exemplified by the following: If all offers, in the competitive range, are of approximately equal qualitative (technical and management) merit, JPL will select for negotiations the offer with the lowest cost as represented by the Cost Elements Breakdown Attachment. However, JPL may select for negotiations a contractor whose proposal offers a higher qualitative merit if the difference in cost 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 cost differential between it and other offers so warrants.

- 7.1.1 Before issuing the RFP, JPL establishes specific criteria and their weighting for the evaluation of the Technical /Management proposal. After receipt at JPL, the proposals are evaluated against the pre-set criteria outlined in paragraph 9.0 below.
- 7.1.2 An analysis of the supporting cost details is performed and the cost information is compared. If the Buy-American Act, the Balance of Payments Program, or Rent Free use of Government-furnished property applies, your cost will be adjusted as required for purpose of this evaluation.
- 7.1.3 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 not responsible.
- 7.1.4 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.
- 7.1.5 JPL may, at its discretion, conduct limited communications with one or more proposer(s) for the purpose of determining whether the proposer(s) 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:
 - 7.1.5.1 Validate the proposed cost; and
 - 7.1.5.2 Clarify omissions, ambiguities and uncertainties in the proposer's supplemental business/cost information; and
 - 7.1.5.3 Clarify relevant related experience information.

- 7.1.6 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.
- 7.1.7 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:
 - 7.1.7.1 Discussing those aspects of each proposal which contain omissions, ambiguities and uncertainties;
 - 7.1.7.2 Verifying and identifying strengths and weaknesses which could affect work performance;
 - 7.1.7.3 Verifying the validity of the proposed cost/price; and
 - 7.1.7.4 Assessing the proposed personnel and the proposer's capabilities for performing the work.
- 7.2 JPL reserves the right to visit the facilities of those proposers found to be within the competitive range to confirm that the facilities meet the technical requirements of the contract.
- 7.3 Finally, the initial evaluation findings are reviewed and ratings are assigned which incorporate the results of the discussions.

8.0 Selection Process

- 8.1 The results of the final evaluation are submitted to the JPL Source Selection Official, who selects the Contractor for negotiation.
- 8.2 JPL reserves the right to reject all proposals, to award a contract based on initial proposals (without proposal clarifications), prior to making source selection.

9.0 TECHNICAL AND MANAGEMENT EVALUATION CRITERIA

The 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 – Personnel 250 Points

The degree to which the proposer has the ability to meet the skills and availability requirements for the wide variety of skills required on this contract including but not limited to, optical and thermal engineers, mechanical engineers, and electrical/electronic engineers. Factors to be considered are:

- Qualifications and Skill Mix of key personnel

Criterion T-2 -- Technical Capabilities of Facilities and Equipment
250 Points

The degree to which the proposer's facilities and equipment will enable the proposer to effectively perform the effort described in the Specimen Contract. Factors to be considered are:

- Existing or proposed facilities or equipment
- Computer Hardware and Software available for use on Contract

Criterion T-3 -- Related Experience
200 Points

The degree to which the proposer has demonstrated related experience with this type of engineering support contract. Please see "Attachment A-14" in Attachments Section of this RFP.

Criterion T-4 -- Technical Problem Solution
100 Points

The degree to which the proposer understands and solves the impromptu technical problem presented during the oral proposals.

Criterion M-1 -- Management
200 Points

The degree to which the proposed contract management approach will lead to a high probability of success in meeting the requirements of the Specimen Contract. Factors to be considered are:

- Organizational Approach
- Program Manager's Authority
- Contract Administrator's Authority
- Schedule and Cost Control

VOLUME I – TECHNICAL/MANAGEMENT INSTRUCTIONS

This portion of the Proposal Instructions sets forth the requirements to be followed in preparing Volume I – Technical/Management Proposal. The following information must be provided concisely in Volume I to permit an evaluation of your technical and management qualifications, and the effectiveness of the methods proposed to perform the effort required by the RFP Specimen Contract. Volume I should consist of two (2) parts, as follows:

Part A – Technical Approach

Part B – Management Approach

PART A – TECHNICAL APPROACH

Part A, Technical Approach, shall be organized in four sections for each Technical Criterion, T-1 Personnel, T-2 – Facilities and Equipment, and T-3 – Related Experience.

SECTION 1. PERSONNEL – CRITERION T-1

Qualifications and Skill Mix of Key Personnel (Factor 1)

Provide, as a separate attachment to Volume I, resumes of the proposed Program Manager and Contract Administrator. Also provide resumes for personnel who would support various tasks required under this contract. Discuss their educational background and related work experience in both managerial and technical areas, and any other information that may support their qualifications for assignment to this effort.

If your organization will be acquiring support personnel upon award of this contract, please discuss your plan for building a qualified workforce.

SECTION 2. TECHNICAL CAPABILITIES OF FACILITIES AND EQUIPMENT – CRITERION T-2

Existing or Proposed Facilities and Equipment (Factor 1)

Discuss in detail the existing or proposed location of facilities such as distance (in miles) to JPL, square footage, cleanroom space, machining capabilities, potential for expansion (if any).

Computer Hardware and Software available for use on contract (Factor 2)

Discuss in detail computer hardware and software available for use on this contract.

Also discuss your internal procedures for maintaining hardware and software at your facility.

SECTION 3. RELATED EXPERIENCE – CRITERION T-3

Provide a list of contracts which your company is currently participating or has participated in the past which are similar to or relate to an engineering support contract. See “Attachment A-14”, Attachments Section of this RFP.

Of the contracts identified, provide a list of proposed personnel for this contract who have worked on the listed contracts and their role in the performance of that contract.

SECTION 4. TECHNICAL PROBLEM – CRITERION T-4

Discuss the proposed skill mix and technical approach to the impromptu task. Additionally discuss any risks associated with your approach and ways that you would mitigate said risks.

PART B – MANAGEMENT APPROACH

Part B, Management Approach, shall be organized in one section, M-1 – Management.

SECTION 5: MANAGEMENT – CRITERION M-1

Organizational Approach (Factor 1)

Provide a current company organization chart(s) indicating the relationship of the proposed program organization to be used in the performance of this effort to the total company organization. Include a chart(s) showing your proposed program organization for accomplishing the RFP Specimen Contract. Also indicate all personnel who will be a direct charge the contract.

Program Manager's Authority (Factor 2)

Describe the Program Manager's functions, authority, responsibilities and lines of communication relative to the corporate organization and to the personnel working for him/her, and his/her authority to command and control the resources (e.g. personnel, finances, facilities and any subcontracts) to perform the effort required by the RFP Specimen Contract. Discuss how the Program Manager will make decisions beyond his/her authority and resolve conflicts not under his/her control.

Contract Administrator's Authority (Factor 3)

Describe the Contract Administrator's functions, authority, responsibilities and lines of communication relative to the corporate organization and to the personnel working for him/her, and his/her authority to command and control the resources (e.g. personnel, finances, facilities and any subcontracts) to perform the effort required by the RFP Specimen Contract. Discuss how the Contract Administrator will make decisions beyond his/her authority and resolve conflicts not under his/her control

Schedule and Cost Control (Factor 4)

Discuss how the contract will be monitored and controlled. Include a discussion of your management tools and status report approach that will be used to monitor and control both cost and schedule performance at the total contract level and CWO level. Include in the discussion your approach to incorporate and implement within your corporate system the JPL financial reports required by the RFP Specimen Contract.

VOLUME II -- COST INSTRUCTIONS

DATA SUBMITTAL

- 1.0 Provide the applicable data requested below. Note that if any of the current information requested below has been previously submitted to JPL, resubmittal is not necessary; simply reference the applicable JPL RFQ or RFP number under which the data was submitted.
 - 1.1 Provide the cost breakdown information requested on the attached Cost Element Breakdown Attachment (or equivalent) with supporting narration as required.
 - 1.2 Please provide, a Contract Pricing Proposal Cover Sheet, signed by the proposer's authorized representative, stating.
 - 1.2.1 The solicitation number;
 - 1.2.2 Whether your organization is subject to cost accounting standards (CAS);
 - 1.2.3 Whether your organization has submitted a CASB Disclosure Statement, and if it has been determined adequate;
 - 1.2.4 Whether you have been notified that you are or may be in noncompliance with your Disclosure Statement or CAS, and, if yes, an explanation;
 - 1.2.5 Whether any aspect of this proposal is inconsistent with your disclosed practices or applicable CAS, and, if so, an explanation; and
 - 1.2.6 Whether the proposal is consistent with your established estimating and accounting principles and procedures and FAR Part 31, "Cost Principles," and, if not, an explanation.
- 2.0 The cost information requested below.
- 3.0 This contract has an estimated ceiling value over \$550,000. Therefore all cost or pricing data requested below must be certified in accordance with Attachment B-10, "Certificate of Current Cost or Pricing Data," upon contract negotiation, unless an exception applies. If any exception per Attachment B-13, "Claims for Exceptions to Cost or Pricing Data," is applicable, you must submit a written request in accordance with Attachment B-13 to qualify for an exception to the requirement for submission of cost or pricing data..
- 4.0 A letter authorizing the release of rate and other relevant information to the Jet Propulsion Laboratory.

PROPOSAL PRICING

Submit the cost information requested below on the Cost Elements Breakdown Attachment or equivalent.

Labor Categories

JPL has provided standardized labor categories and their corresponding requirements. For the Cost Elements Breakdown Attachment please use these categories to determine applicable labor rates. The hours have been provided for uniformity. These categories are demonstrative of labor categories that will typically be utilized under this contract. For the Cost Elements Breakdown Exercise please use Fiscal Year 2002 Rates.

Additionally on a separate attachment, please present all labor rate information using these labor categories by work hour per fiscal year for all fiscal years, including the Option. Failure to use the standardized labor categories outlined below will be considered non-responsive and your proposal will not be considered.

Lack of required education may be waived with verification of equivalent experience.

1.0 Thermal Engineer

- 1.1 Thermal Engineer I – MS/MA, or BS/BA with one (1) year of experience in Mechanical, Aerospace Engineering or related discipline. Some knowledge of spacecraft and/or instrument thermal control and the associated design process. Educational background and/or working experience in heat transfer, thermodynamics and systems engineering. Possesses good verbal and written communication skills. Ability to work effectively in a development team environment. Ability to develop thermal design with a systems approach. Willingness to become sufficiently skilled with thermal analysis tools including experience with TSS, Thermal Desktop, and/or Thermal Analysis System. Good verbal and written communication skills, and basic proficiency with automated software such as Microsoft Office.
- 1.2 Thermal Engineer II – Ph.D., MA/MS with three (3) years of experience or BA/BS with five (5) years of experience in Mechanical, Aerospace Engineering or related discipline. Educational knowledge of spacecraft and/or instrument thermal control and the associated design process. Educational background and/or working experience in heat transfer, thermodynamics and systems engineering. Possesses good verbal and written communication skills. Ability to work effectively in a development team environment. Ability to develop thermal design with a systems approach. Willingness to become sufficiently skilled with thermal analysis tools including experience with TSS, Thermal Desktop, and/or Thermal Analysis System. Ability to work on at least two concurrent assignments and to actively participate with the design team. Good verbal and written communication skills, and basic proficiency with automated software such as Microsoft Office.
- 1.3 Thermal Engineer III – Ph.D. with seven (7) years experience, MA/MS degree with ten (10) years experience, or BA/BS degree with twelve (12) years experience Mechanical, Aerospace Engineering or related discipline. In-depth working knowledge of spacecraft and/or instrument thermal control and the associated design process including design, analysis, thermal hardware implementation and test. Educational background and/or working experience in heat transfer, thermodynamics, and systems engineering. Possesses experience in leading the design development of a spacecraft subsystem or science instrument. Possesses excellent verbal and written communication skills. Has demonstrated experience in the design, analysis, implementation and testing of flight thermal designs. Has demonstrated proficiency with thermal analysis tools such as TSS, Thermal Desktop and/or Thermal Analysis System. Knowledge of passive and active space borne thermal control techniques for Earth-orbiting and interplanetary missions. Ability to develop thermal designs with a systems approach. Demonstrated interpersonal and leadership skills with thermal, mechanical, and systems teams.

2.0 Mechanical Engineering

- 2.1 Mechanical Engineer I - MS in mechanical Engineering or similar discipline or BS degree in similar discipline plus three years work experience. Strong knowledge in the fundamentals of mechanical engineering. Capabilities in basic design of spacecraft structures, mechanisms, or science instruments. Working knowledge of CAD design and FEM analysis tools.
- 2.2 Mechanical Engineer II - MS in mechanical engineering or similar discipline with six years experience or BS in similar discipline with eight years experience. Proven ability to solve complex mechanical design problems. Able to devise mechanical configurations of

complex assemblies. Ability to generate and review complete detailed designs of mechanical assemblies such as actuators, optical benches, spacecraft structures. Successful experience with coordinating hardware fabrication, assembly and test. Working knowledge of CAD design and FEM analysis tools.

- 2.3 Mechanical Engineer III - MS or Ph.D. in mechanical engineering with ten years work experience. Proven capability to apply technical skills in solving multi-disciplinary problems. Ability to perform trade studies, develop design and verification requirements, and design complex assemblies. Coordinate fabrication, assembly and test of hardware. Working knowledge of CAD design and FEM analysis tools.

3.0 Optical Engineering

- 3.1 Optical Engineer I - A BA/BS degree in Physics, Electronic Engineering, or other Engineering or Science discipline with two plus years of work experience. Ability to design, test, and develop various opto-electrical and or opto-mechanical components. Familiarity with vacuum systems, optics, and electronics is a plus. Desire familiarity with opto-electronic circuits, computers, opto-mechanical design and analysis, diagnostic techniques and computer control of experiments and optics programs such as Code5, ZEMAX, etc.
- 3.2 Optical Engineer II – MS or Ph.D. degree in optics, engineering, physics, astronomy, or related technical discipline with two years experience in the field of optics. Experience in the design and assembly of optical systems. Knowledge of structures and thermal engineering and analysis; image processing; optical metrology; controls or related discipline. Experience in computing in a parallel environment. Demonstrated skills and experience in optical engineering, physics or electrical engineering or in similar discipline such as astronomy. Good programming skills (Fortran, C++, C, IDL, Matlab); good mathematical and analytical skills. Proven ability to work both autonomously and as a team member. Excellent verbal and written communication skills.
- 3.3 Optical Engineer III - Ph.D. degree in Electrical Engineering or similar discipline with 10 years work experience, or MS degree in similar discipline with 12 years work experience, or BS degree in similar discipline with 15 years work experience. Direct experience in opto-electrical and opto-mechanical qualification of science instruments on orbiting or interplanetary spacecraft. Understanding of qualification and test issues associated with opto-mechanical and opto-electrical hardware. Concentrated experience in the field of opto-mechanical and opto-electrical compatibility, familiarity with military and NASA specifications. Strong understanding of hardware opto-mechanical and opto-electrical qualification by test and analysis. Good interpersonal, communication, and organizational skills. Basic computer skills with strong knowledge of optical modeling and use of optical design programs such as Code V. Hardware test experience.

4.0 Mechanical Designers

- 4.1 Mechanical Designer I – Not Desired.
- 4.2 Mechanical Designer II - Comprehensive knowledge of the midrange or high end CAD design tools. Ability to model parts using parametrics per direction of mechanical engineer. Ability to generate detailed parts drawings and assembly/installation drawings per ANSI Y14.5 standards. Ability to operate in a PDM controlled environment.
- 4.3 Mechanical Designer III - Extensive knowledge of multiple midrange or hi-end CAD tools. Ability to translate between tools utilizing industry standard formats (i.e. STEP). Ability to model parts using parametrics. Can design parts and assemblies with limited engineering direction. Ability to perform system assembly functions within the CAD tool (i.e. mass properties). Ability to generate detailed parts drawings per ANSI Y14.5 standards. Ability to lead other designers in the development of the system design. Ability to establish and maintain the system PDM environment.

COST ELEMENTS SUPPORTING DATA (to be provided in addition to the Cost Elements Breakdown Attachment.)

Direct Labor

For the Cost Elements Breakdown Attachment, please use Fiscal Year 2002 rates.

Additionally, discuss the development of the labor rates, including all escalation factors. Include a summary rate table by classification and lowest fiscal distribution (i.e., by quarter if rates change quarterly). If available, submit evidence of Government approval of direct labor rates for each labor classification.

OTHER DIRECT COSTS.

Material

For proposal purposes, the cost element breakdown attachment provides a material cost of \$2,000. Use this amount in developing your proposed price, plus any applicable mark-up factors such as scrap, rework, usage, and handling charges.

Travel and Relocation

Submit current company policy regarding the reimbursement of travel/relocation costs and the accounting of such costs as a direct or indirect expense.

Computer Usage

Describe the proposed computer usage and the extent of usage, rate(s). Explain the development of the rate(s).

Special Tooling and Special Test Equipment

Special Tooling and Special Test Equipment are defined in JPL Additional General Provision entitled "Management of Government Property in the Possession of Contractors," which is incorporated into the Specimen Contract. Describe each item of Special Tooling and Special Test Equipment you would anticipate utilizing; explain how it meets the definition referenced above.

Explain the Basis of Estimate and furnish supporting data for the customary cost associated each item of Special Tooling and Special Test Equipment.

Subcontracts

Indicate the specific labor skill category for which your organization would subcontract to another organization. Identify the proposed Contractor, state the proposed hourly rate, and any other associated costs.

Please note that JPL discourages proposers from subcontracting all labor for this effort.

Consultants

Indicate the specific labor skill category for which your organization would require consultant services. Identify any proposed consultants, state the proposed hourly/daily rate, and any associated costs (such as

travel). State whether the consultant has been compensated at the quoted rate for similar services performed in connection with Government contracts.

Licensing and Royalty Information

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

Other

Explain and support any additional other direct costs included in the proposal.

Indirect Costs

Discuss the development of each proposed indirect expense rate (e.g., labor overhead, material overhead, off-site burden, general and administrative [G&A]). Specifically identify the cost elements (e.g., courier service, project management, contract administrator, in-house counsel) included in the base to which each rate is applied. List the indirect expense rates experienced for the past two years. Explain any significant variance between the experienced and proposed rates. Submit evidence of Government approval of each indirect rate, if available.

Identify separately any independent research and development expenses included in the G&A rate.

Fee

Submit your proposed fee for both Category A and Category X Tasks**.

SUPPLEMENTAL BUSINESS/COST INFORMATION

Financial Statement

Submit a copy of your annual financial statements for the last three (3) years and 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 (within six months) been submitted to JPL, re-submittal is not necessary, simply reference the applicable JPL RFP number under which the data was submitted.

Accounting Calendar

Submit your accounting calendar for each year in which work is anticipated, including the Option.

Attachments

The section of the 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. Note that Group B Attachments are very important and may become requirements under the contract.

** Category A personnel are defined as those personnel who work entirely at JPL and maintain office space at JPL.

Category X personnel are defined as those personnel whose principal place of business is at the Contractor's facility and only come to JPL for meetings/reviews. Category X personnel maintain no office space at JPL.

Volume III – Past Performance

- 1.0 See Attachment A-14 in the “Attachments” Section of this RFP for instructions.
 - 1.1 For efficient handling of Past Performance Information JPL requests that you include email addresses in addition to the information required in Attachment A-14.
- 2.0 JPL encourages early submission of Volume III in accordance with the RFP General Instructions in order to facilitate the evaluation process.
- 3.0 Please submit this volume in accordance with paragraph 4.1 of the General Instructions.