



FIXED PRICE
RESEARCH & DEVELOPMENT CONTRACT
Specimen Contract Dated 05/08/01

Contract No. **TBD**

BETWEEN

CALIFORNIA INSTITUTE OF TECHNOLOGY
JET PROPULSION LABORATORY
(The "Institute" or "JPL")
4800 OAK GROVE DRIVE
PASADENA, CALIFORNIA 91109-8099

AND

TBD

THIS CONTRACT FOR

Mars Ascent Vehicle (MAV) Concept Study

IS A

SUBCONTRACT UNDER JPL's NASA PRIME CONTRACT

TASK ORDER NO. **10137**

A DO - C9 Rating is assigned to this Contract under DMS Regulation 1

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GENERAL PROVISIONS: Fixed-Price Research and Development Contract, R 1/01, with included Exhibits.

JPL 1737, Release of Information, R 9/99

JPL 2385, Notification to Prospective Contractors of JPL's Ethics Policies and Anti-Kickback Hotline, R7/91

JPL 2892, Certifications of Non-segregated Facilities, Clean Air and Water, Anti-Kickback Compliance, Americans with Disabilities Act Compliance, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions, Certification of Full Disclosure Regarding Debarred, Suspended, or Proposed for Debarment Status, and Certification of Toxic Chemical Release Reporting, R 4/99

ADDITIONAL GENERAL PROVISIONS (AGPs)

New Technology R/99 (Large Business)

or

Patent Rights - Retention By The Contractor (Short Form) R 4/99 (Small Business)

PREAMBLE

This Contract, entered into on _____ by and between the CALIFORNIA INSTITUTE OF TECHNOLOGY (hereinafter called the "Institute" or "JPL"), a corporation organized and existing under the laws of the State of California, and "**TBD**" (hereinafter called the "Contractor"), a corporation organized and existing under the laws of the State of "**TBD**" and constituting a subcontract under Prime Contract NAS7-1407 between the Institute and the Government;

WITNESSETH THAT:

The Contractor agrees to furnish and deliver the supplies and perform the services set forth in this Contract for the consideration stated herein.

Schedule

ARTICLE 1. STATEMENT OF WORK AND DELIVERY INSTRUCTIONS

On or Before

- 1.0 The Contractor shall develop system Concept(s) for a Mars Ascent Vehicle (MAV) in support of the Mars Sample Return (MSR) mission to be launched in 2011. The concept study shall be performed in accordance with the requirements set forth below and in accordance with Exhibits I through IV to this Contract. In the performance of this effort, the Contractor shall:
- 1.1 Develop MAV system Concept(s) that address the technology objectives outlined in Exhibits I, II, III and IV and that are consistent with the Mars Exploration Program and the MAV study guidelines as outlined in Exhibit I.
 - 1.2 Study and analyze each Mars Sample Return (MSR) approach still viable in Exhibit III, after incorporation of additional input to be provided by JPL from the MSR Phase 1 Study. Prepare a written discussion of the pros and cons and rationale associated with each Concept for each viable sample return approach.
 - 1.3 Conduct a Mid Term MAV System Concept(s) Presentation at JPL for review by the JPL/Marshall Space Flight Center (MSFC) Study Team. The Presentation shall consist of viewgraphs, with text annotations on the facing page, that detail the work performed in accordance with paragraphs 1.1 and 1.2 above and shall address the items listed in Exhibit IV. 11/05/01.
 - 1.4 Develop and analyze detailed MAV Concept(s) for each Sample Return Approach determined to be viable. Provide the rationale for formulating these concepts in terms of the cost/risk/technology balance. Mars Ascent shall be defined as beginning at the Mars surface for launch and ending at Mars Orbit or Mars escape. Year 2011 launch shall be the baseline for all concepts.
 - 1.5 Conduct a Final MAV System Concept(s) Presentation at JPL for review by the JPL/MSFC Study Team. The Presentation shall consist of viewgraphs, with text annotations on the facing page, that detail the work performed in accordance with paragraph 1.4 above and shall address the items listed in Exhibit IV. The Final Presentation shall also include the following: 01/28/02.
 - 1.5.1 Provide an in-depth technical description of the resulting MAV concepts, addressing the items listed in Exhibits III and IV.
 - 1.5.2 Provide a Research & Development (R & D) road map including cost and schedule estimates for the (1) formulation, (2) implementation (including technology development and demonstration) and (3) launch scenario for each concept.
 - 1.5.3 Provide requirements on technology development consisting of:

1.5.3.1 A list of technology needs.

1.5.3.2 Recommendations for required testing or flight
validations.

- | | | |
|-------|---|---|
| 1.6 | Attend and participate in a technical Kick-Off meeting at JPL . The discussions shall include (1) study objectives (2) clarifications (3) a summary of prior MAV study efforts completed by NASA to date (4) a description of related elements of the NASA MAV Program and (5) MAV ground rules, requirements and assumptions from the MSR Phase I Study. | 08/07/01. |
| 1.7 | Participate in bi-weekly teleconferences with the MAV study team (JPL/MSFC) for informal status reports and technical updates. | Beginning two weeks after Date of Contract (DOC) through Contract completion. |
| 1.8 | Contact the JPL Contract Technical Manager (CTM) for information on previous studies and/or ongoing technical work. | Ongoing through Contract completion. |
| 1.9 | Provide reports as described below: | |
| 1.9.1 | Ten (10) copies including one electronic copy (Microsoft Office 97 format on Zip-disk or CD-ROM) of the viewgraphs to be used for the Mid-Term MAV System Concept(s) Presentation as specified in paragraph 1.3 above. | 11/01/01. |
| 1.9.2 | Ten (10) copies including one electronic copy (Microsoft Office 97 format on Zip-disk or CD-ROM) of the technology needs list and demonstration requirements documenting the effort as specified in paragraph 1.5.3 above. | 01/24/02. |
| 1.9.3 | Ten (10) copies including one electronic copy (Microsoft Office 97 format on Zip-disk or CD-ROM) of the viewgraphs to be used for the Final MAV System Concept(s) Presentation as specified in paragraph 1.5 above. | 01/24/02. |
| 2.0 | The following Exhibits are hereby incorporated into and made a part of this Contract: | |
| 2.1 | Exhibit I, "Mars Ascent Vehicle Concept Study - Contract Support, dated 05/08/01 | |
| 2.2 | Exhibit II, "MAV Technology Objectives," dated 05/08/01 | |

2.3 Exhibit III “Concepts List and Supporting Information”, dated 05/08/01

2.4 Exhibit IV “Concept Study Products List”, dated 05/08/01.

3.0 JPL will:

3.1 Conduct a Kick-Off meeting as specified in paragraph 1.6 above.

3.2 Provide the Contractor with the results of the MSR Phase 1 Study as specified in paragraph 1.2 above.

3.3 Conduct informal bi-weekly teleconferences with the Contractor as specified in paragraph 1.7 above.

3.4 Host the Mid Term and Final MAV System Concept(s) Presentations at JPL as specified in paragraphs 1.3 and 1.5 above.

4.0 Delivery Instructions

4.1 Except as otherwise provided in this Contract, the point of inspection, acceptance and delivery of all supplies deliverable under this Contract shall be the Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, California 91109. All such supplies shall be packaged, packed, boxed, or crated in such a manner to ensure safe delivery and shall be shipped prepaid and at the Contractor's expense to the point of delivery.

4.2 Time is of essence in the performance of this Contract.

4.3 Large Businesses – The Contractor shall furnish the Contracting Officer (CO) with the annual and final reports of reportable items described in the Article entitled “New Technology.” Copies of transmittal letters for those reports shall be sent to the JPL Office of Patents and New Technology (OPANT) and to the cognizant JPL negotiator.

or

Small Businesses - The Contractor shall provide the Contracting Officer (CO) the annual and final reports of subject inventions described in the Article entitled “Patent Rights – Retention by the Contractor (Short Form).” Copies of transmittal letters shall be sent to the JPL Office of Patents and New Technology (OPANT) and to the cognizant JPL negotiator.

ARTICLE 2. PRICE AND PAYMENT

1.0 Total Fixed Price: \$TBD.

2.0 Partial Payments will be made in accordance with the following schedule:

	<u>Deliverable</u>	<u>Partial Payment Amount</u>
1.	Mid Term MAV System Concept(s) Presentation as specified in Article 1, paragraph 1.3	TBD
2.	Final MAV System Concept(s) Presentation and reports as specified in Article 1, paragraphs 1.5 and 1.9	TBD

Provisional partial payments in the amounts specified above shall be made to the Contractor upon delivery and acceptance of the specified deliverables. These provisional payments shall be made subject to final acceptance of all deliverables. Should the Contract be terminated prior to final acceptance of all deliverables, JPL shall be entitled to an appropriate equitable adjustment and possible return of all or a portion of the provisional partial payments made.

3.0 Invoices. Invoices shall be submitted, in triplicate, to JPL Supplier Payment Section, M/S 601-208, 4800 Oak Grove Drive, Pasadena, California 91109.

ARTICLE 3. SPECIAL PROVISIONS

1.0 Key Personnel/Facilities

- 1.1 The personnel and/or facilities, if any, specified in paragraph 1.2 below are considered essential to the work being performed hereunder. Prior to removing, replacing, or diverting any of the specified individuals or facilities, the Contractor shall notify JPL reasonably in advance and shall submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this Contract. No diversion shall be made by the Contractor without the written consent of JPL; provided, that JPL may ratify in writing the change, and such ratification shall constitute the consent of JPL required by this Article. Paragraph 1.2 below may, with the consent of the Contracting parties, be amended from time to time during the course of the Contract to either add or delete personnel and/or facilities, as appropriate.
- 1.2 The following Contractor personnel shall be considered Key Personnel under this Contract:

<u>Name</u>	<u>Title</u>	<u>% Of Time Available to this Contract</u>
TBD	TBD	TBD

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day and year first above written.

CALIFORNIA INSTITUTE OF TECHNOLOGY

By _____

By _____
(Typed Name)

(Title)

Instructions to Contractor: Do not insert date on Preamble page.