

CONTRACT NAS1-99150

The following information has been determined to be exempt from disclosure and has been deleted from the contract:

- Section 12: Advance Agreement on Indirect Rates, pg. 4.

The deleted material is exempt from disclosure under 14 C.F.R. 1206.300 (b) (4) which covers trade secrets and commercial or financial information obtained from a person and privileged or confidential. It has been held that commercial or financial matter is "confidential" for purposes of this exemption if its disclosure would be likely to have either of the following effects: (1) impair the Government's ability to obtain necessary information in the future; or (2) cause substantial harm to the competitive position of the person from whom the information was obtained, National Parks and Conservation v. Morton, 498 F2d 765 (D.C. Cir. 1974).

Disclosure of the financial information could cause substantial competitive harm to the contractor by providing its competitors insight into the company's costing practices and management approaches. Furthermore, disclosure would discourage other companies from participating in future competitive procurements, thereby impairing the Government's ability to obtain complete and accurate cost data, and in turn, frustrating the mandate to obtain maximum competition in negotiated procurements.

NASA CONTRACT

1. DPAS	2. PPC	3. Init. Ofc.	4. Page 1 of 7
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5. Contract No. NAS1 - 99150	6. Effective Date OCT 25 1999	7. Procurement Request No. DIG.1335	8. Vendor Code
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9. Issued By Building 1195B, Room 125 NASA Langley Research Center 9A Langley Boulevard Hampton, VA 23681-2199	10. Contractor Name and Address The Boeing Company P. O. Box 3707 MS 7A-33 Seattle, WA 98124-2207 Name and Telephone No. of Contractor's Administrator: Carl P. Garlow (425) 865-5042
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11. Administered By National Aeronautics and Space Administration Langley Research Center Hampton, VA 23681-2199 LaRC Administrator: 126/ Shirley D. Evans (757) 864 - 2478	12. Payment Will Be Made By Financial Management Division, M/S 175 NASA Langley Research Center Hampton, VA 23681-2199
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13. Submit Invoices To The address shown in Block 12 and in accordance with Paragraph 7 of this contract.	14. Accounting and Appropriations Data PR: DIG.1335; R23931; \$ 64,527 (Partial)
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15A. Contract Type R & D Cost Reimbursement	15B. Incremental Funding [X]
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AUTHORITY FOR OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10.USC 2304(c) () <input type="checkbox"/> 41.USC 253(c) ()	Acknowledgment of Amendments #s
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17. Items Awarded Under This Contract:
ADVANCED TECHNOLOGY CONCEPTS FOR AERONAUTICAL AND SPACE TRANSPORTATION SYSTEMS - NRA 98-LaRC-08

EXECUTED BY BOTH PARTIES

THIS CONTRACT IS AWARDED UNDER THE NASA/LARC MIDRANGE PILOT TEST PROGRAM APPROVED BY THE OFFICE OF FEDERAL PROCUREMENT POLICY, AUGUST 22, 1994.

BVS [] TPA Code:

18A. Discount Terms Net 30	18B. Total Amount of Contract \$193,562
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19. Name and Title (Type or Print) Carl P. Garlow, Contracts Manager	20. Name of Contracting Officer SHIRLEY D. EVANS
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21. Signature (of person authorized to sign) <i>Carl P. Garlow</i> 10/21/99	22. Signature <i>Shirley D. Evans</i> 10-25-99
Contractor Date	United States of America Date

FULL-TEXT CLAUSES

1. SUPPLIES AND/OR SERVICES TO BE FURNISHED (LARC 52.211-90) (MAY 1999)

The Contractor shall provide all resources (except as may be expressly stated in this contract as furnished by the Government) necessary to perform the requirements delineated in the Description/Specifications/Work Statement in Paragraph 16.

2. ESTIMATED COST AND FIXED FEE (1852.216-74) (DEC 1991)

The estimated cost of this contract is \$181,461, exclusive of the fixed fee of \$12,101. The total of estimated cost and fixed fee is \$193,562.

3. CONTRACT FUNDING (1852.232-81) (JUN 1990)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$60,493. This allotment is for Advanced Technology Concepts for Aeronautical and Space Transportation Systems and covers the following estimated period of performance:

(b) An additional amount of \$4,034 is obligated under this contract for payment of fee.

4. FINAL INSPECTION AND ACCEPTANCE (LARC 52.246-94) (OCT 1992)

Final inspection and acceptance of all items specified for delivery under this contract shall be accomplished by the Contracting Officer or his duly authorized representative at destination.

5. PERIOD OF PERFORMANCE (LaRC 52.211-91) (AUG 1997)

The period of performance of this contract shall be nine (9) months from the effective date of this contract.

6. PLACE OF PERFORMANCE (LaRC 52.211-98) (OCT 1992)

The place of performance shall be the Contractor's facility located in Bellevue, Washington

7. SUBMISSION OF VOUCHERS FOR PAYMENT (NASA 1852.216-87) (MAR 1998)

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is identified below. Public vouchers for payment of costs shall include a reference to the number of this contract.

(b) (1) If the Contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted to:

Attn: Financial Management Division, MS 175
NASA Langley Research Center
Hampton, VA 23681-2199

(2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.

(3) Copies of vouchers should be submitted as directed by the Contracting Officer.

(c) If the Contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the Contractor shall prepare and submit vouchers as follows:

(1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to:
Defense Contract Audit Agency
Boeing Washington Resident Office
MC 45-53
The Boeing Co.
Seattle, WA 98124

(2) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addresses:

- (i) Copy 1 NASA Contracting Officer;
- (ii) Copy 2 Auditor;
- (iii) Copy 3 Contractor;
- (iv) Copy 4 Contract administration office; and
- (v) Copy 5 Project management office.

(3) The Contracting Officer may designate other recipients as required.

(d) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

8. INVOICES AND PAYMENTS (LaRC 52.232-96) (OCT 1992)

(a) General—Invoices shall be addressed as shown in Block 12 on page 1 of this contract and shall be identified by the contract number.

(b) Cost—Payments of cost shall be made in monthly installments.

(c) Payments of fixed fee shall be made in monthly installments based upon the percentage of completion of work as determined by the Contracting Officer.

9. CONTRACT CLOSEOUT (LaRC 52.242-90) (MAY 1999)

(a) Reassignment—After receipt, inspection, and acceptance by the Government of all required articles and/or services, and resolution of any pending issues raised during the Period of Performance, this contract will be reassigned to the NASA Langley Research Center Contracting Officer for Contract Closeout, James W. Cresawn. All transactions subsequent to the physical completion of the contract should, therefore, be addressed to the said Contracting Officer at NASA Langley Research Center, Mail Stop 127, who may be reached by telephone at (757) 864-2500.

(b) "Quick Closeout"—Paragraph (f) of the Allowable Cost and Payment clause of this contract addresses the "Quick Closeout Procedure" delineated by Subpart 42.7 of the Federal Acquisition Regulation (FAR). It should be understood that the said procedure applies to the settlement of indirect costs for a specific contract in advance of the determination of final indirect cost rates when the amount of unsettled indirect cost to be allocated to the contract is relatively insignificant. Therefore, the "Quick Closeout" procedure does not preclude the provisions of paragraph (d) of the Allowable Cost and Payment clause nor does it constitute a waiver of final audit of the Contractor's Completion Voucher.

(c) Completion Voucher Submittal—Notwithstanding the provisions of the Allowable Cost and Payment clause, as soon as practicable after settlement of the Contractor's indirect cost rates applicable to performance of the contract, the Contractor shall submit a Completion Voucher as required by the aforesaid clause. The Completion Voucher shall be supported by a cumulative claim and reconciliation statement and executed NASA Forms 778, Contractor's Release, and 780, Contractor's Assignment of Refunds, Rebates, Credits, and Other Amounts. Unless directed otherwise by the Contracting Officer for Contract Closeout, the Contractor shall forward the said Completion Voucher directly to the cognizant Government Agency to which audit functions under the contract have been delegated.

10. RIGHTS TO PROPOSAL DATA (TECHNICAL) (FAR 52.227-23) (JUN 1987)

Except for data contained on pages (None), it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data - General" clause contained in this contract) in and to the technical data contained in the proposal dated December 18, 1998, and revised proposal dated July 30, 1999, upon which this contract is based.

11. ADVANCE APPROVAL FOR RELEASE OF TECHNICAL INFORMATION (LaRC 52.227-92) (JUL 1998)

The Contractor shall not release technical information based on or containing data first produced in the performance of this contract and describing the work performed under this contract unless prior written approval is given by NASA. The Contractor shall submit technical information regarding the contract effort, such as journal articles, meeting papers, and technical documents to the Contracting Officer's Technical Representative (COTR) for review and concurrence with approval by the Center Export Administrator or designee prior to publication, presentation or release to others. The Contractor may proceed upon receipt of written concurrence by the COTR, unless directed otherwise in the COTR concurrence letter.

12. ADVANCE AGREEMENT ON INDIRECT RATE(S) (LaRC 52.231-90) (JUN 1988)

Notwithstanding the provisions of the Section I clause entitled "Allowable Cost and Payment," the Contractor will be reimbursed at the indirect ceiling rates specified below or the actual rates, whichever are less, for each of the Contractor's fiscal years applicable to this contract. The Contractor's fiscal year is the calendar year. Any costs that are not reimbursed due to the ceilings shall be deemed unallowable costs. These unallowable costs shall not be recovered under this or any other Government contract.

<u>Indirect Cost Pool</u>	<u>Ceiling Percentage</u>	<u>Allocation Base</u>
General & Admin. Expense (G&A)	██████████	██

13. INCORPORATION OF THE REPRESENTATIONS AND CERTIFICATIONS BY REFERENCE

Pursuant to FAR 15.406-1(b), the Representations and Certifications dated August 31, 1999 are hereby incorporated herein by reference.

14. CLAUSES INCORPORATED BY REFERENCE (52.252-2) (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.arnet.gov/far/>

<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

A. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

52.202-1	Definitions (Oct 1995)
52.203-3	Gratuities (Apr 1984)
52.203-5	Covenant Against Contingent Fees (Apr 1984)
52.203-6	Restrictions on Subcontractor Sales to the Government (Jul 1995)
52.203-7	Anti-Kickback Procedures (Jul 1995)
52.203-8	Cancellation, Rescission and Recovery of Funds for Illegal or Improper Activity (Jan 1997)
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity (Jan 1997)

52.203-12	Limitation on Payments to Influence Certain Federal Transactions (Jun 1997)
52.204-4	Printing/Copying Double-Sided on Recycled Paper (Jun 1996)
52.209-6	Protecting the Government's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (Jul 1995)
52.215-2	Audit and Records -- Negotiation (Jun 1999)
52.215-14	Integrity of Unit Prices (Oct 1997)
52.215-15	Pension Adjustment and Asset Reversions (Dec 1998)
52.216-7	Allowable Cost and Payment (Apr 1998)
52.216-8	Fixed Fee (Mar 1997)
52.219-8	Utilization of Small Business Concerns (Jun 1999)
52.222-1	Notice to the Government of Labor Disputes (Feb 1997)
52.222-2	Payment for Overtime Premiums (Jul 1990) <i>(INSERT ["\$_NONE_"] IN PARAGRAPH (A)) [DELETE IF LESS THAN \$100K]</i>
52.222-3	Convict Labor (Aug 1996)
52.222-21	Prohibition of Segregated Facilities (Feb 1999)
52.222-26	Equal Opportunity (Feb 1999)
52.222-35	Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (Apr 1998)
52.222-36	Affirmative Action for Workers with Disabilities (Jun 1998)
52.222-37	Employment Reports on Disabled Veterans and Veterans of the Vietnam Era (Jan 1999)
52.223-2	Clean Air and Water (Apr 1984)
52.223-6	Drug-Free Workplace (Jan 1997)
52.223-14	Toxic Chemical Release Reporting (Oct 1996)
52.225-11	Restrictions on Certain Foreign Purchases (Aug 1998)
52.227-1	Authorization and Consent (Jul 1995)--Alternate I (Apr 1984)
52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement (Aug 1996)
52.227-14	Rights in Data—General (Jun 1987)--As Modified by NASA FAR Supplement 1852.227-14
52.227-16	Additional Data Requirements (Jun 1987)
52.228-7	Insurance—Liability to Third Persons (Mar 1996)
52.230-2	Cost Accounting Standards (Apr 1998)
52.230-6	Administration of Cost Accounting Standards (Apr 1996)
52.232-9	Limitation on Withholding Payments (Apr 1984)Interest (Jun 1996)
52.232-22	Limitation of Funds (Apr 1984)
52.232-23	Assignment of Claims (Jan 1986)
52.232-25	Prompt Payment (Jun 1997)
52.232-34	Payment by Electric Funds Transfer -- Other Than Central Contractor Registration (May 1999)
52.233-1	Disputes (Dec 1998) -- Alternate I (Dec 1991)
52.233-3	Protest after Award (Aug 1996)--Alternate I (Jun 1985)
52.242-1	Notice of Intent to Disallow Costs (Apr 1984)
52.242-2	Production Progress Reports (Apr 1991)
52.242-3	Penalties for Unallowable Costs (Oct 1995)
52.242-4	Certification of Final Indirect Costs (Jan 1997)
52.242-13	Bankruptcy (Jul 1995)
52.242-15	Stop-Work Order (Aug 1989)--Alternate I (Apr 1984)
52.243-2	Changes—Cost-Reimbursement (Aug 1987)--Alternate V (Apr 1984)
52.244-2	Subcontracts (Aug 1998)--Alternate I (Aug 1998)
52.244-5	Competition in Subcontracting (Dec 1996)
52.245-5	Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) (Jan 1986) (Deviation) (PIC 98-4)
52.246-9	Inspection of Research and Development (Short Form) (Apr 1984)
52.246-23	Limitation of Liability (Feb 1997)
52.247-34	F.O.B. Destination (Nov 1991)
52.249-6	Termination (Cost-Reimbursement) (Sep 1996)
52.249-14	Excusable Delays (Apr 1984)
52.252-6	Authorized Deviations in Clauses (Apr 1984)

B. NASA/FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

1852.208-81	Restrictions on Printing and Duplicating (Aug 1993)
1852.215-84	Ombudsman (Oct 1996) LaRC: Belinda Adams, direct inquiries to Sandra S. Ray, (757) 864-2428 NASA: Administrator for Procurement, Tom Leudtke, (202) 358-2090
1852.216-75	Payment of Fixed Fee (Dec 1988)
1852.216-89	Assignment and Release Forms (Jul 1997)
1852.219-76	NASA 8 Percent Goal (Jul 1997)
1852.227-70	New Technology (Nov 1998)
1852.227-72	Designation of New Technology Representative and Patent Representative (Jul 1997)
1852.235-70	Center for AeroSpace Information (Jul 1999)
1852.235-71	Key Personnel and Facilities (Mar 1989) (Insert "Dr. David R. Ferguson/Program Manager/Seattle, WA in Paragraph (c)

15. REPORTS OF WORK

A. Federal Contractor Veterans Employment Report--In compliance with FAR clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era, the Contractor shall submit the Federal Contractor Veterans Employment Report (VETS-100) as required by this clause.

B. Final Report--The Contractor shall submit an informal final report which documents and summarizes the results of the entire contract work. The final report shall include tables, graphs, diagrams, curves, sketches, photographs and drawings in sufficient detail to explain comprehensively the results achieved under the contract. The Contractor shall submit the required approval copies of the final report nine (9) months from the effective date of this contract.

C. Reports Distribution

Unless otherwise specified elsewhere in this contract, reports and other documentation shall be submitted f.o.b. destination as specified below, addressed as follows:

National Aeronautics and Space Administration
Langley Research Center
Attn: Shirley Evans, Mail Stop 126
Contract NAS1-99150
Hampton, VA 23681-2199

The following letter codes designate the recipients of reports and other documentation which are required to be delivered to Langley Research Center by the Contractor:

A—Contract Administrator, Mail Stop 126

B—Contracting Officer Technical Representative, Mail Stop 236

C—New Technology Representative, Mail Stop 212

D—Patent Counsel, Mail Stop 212

E—According to Instructions on Form

The following are the distribution requirements for reports and other documentation required to be delivered f.o.b. destination. The numeral following the letter code specifies the number of copies to be provided:

DOCUMENT

LETTER CODE AND
DISTRIBUTION

New Technology or Patent Rights Report

A-1, B-2, C-1, D-1

Federal Contractor Veterans Employment Report
(VETS-100)

E-1

Informal Final Report

A-1

When the Contract Administrator (A) is not designated above to receive a copy of a report or document, the Contractor shall furnish a copy of the report/document transmittal letter to the Contract Administrator. The Contractor shall also furnish a copy of the transmittal letter to the delegated Administrative Contracting Officer of the cognizant DoD (or other agency) contract administrative services component.

16. STATEMENT OF WORK

The contractor shall use data from an appropriate wind tunnel test, such as the November 1998 Boeing 4-engine NTF test currently underway, to determine appropriate continuity and shape constraints and compute a tensor product spline fit to the data. Fit errors shall be analyzed using statistical methodology to determine how the experimental design should be modified in future tests. Execute the design on another wind tunnel data set (e.g., a 777 test in the BTWT facility) to demonstrate the generality of the methods. Generate response surface models for lift, drag and pitch moment over a range of mach numbers and angles of attack specified in the design. Compute upper and lower limits of 95% confidence and prediction intervals associated with the response surface models. Test with 100 confirmation points consisting of randomly selected combinations of mach number and angle of attack within the inference space of the model that were not used in the construction of the model. Report the number of confirmation points that fall within the 95% prediction intervals computed for lift, draft, and pitch moment.. Prepare an informal final report and participate in any final reviews necessary.