

**AWARD/CONTRACT**

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)

RATING

PAGE OF PAGE(S)

1 18

2. CONTRACT NO. (Proc. Inst. Ident.) NO.  
NAS1-97040

3. EFFECTIVE DATE  
JAN 10 1997

4. REQUISITION/PURCHASE REQUEST/PROJECT NO.  
DF.1255 / DFB.3704 & DFM.1144

5. ISSUED BY: CODE

6. ADMINISTERED BY (If other than Item 5) CODE

National Aeronautics and Space Administration  
Langley Research Center  
Hampton, VA 23681-0001

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP code)

Boeing Commercial Airplane Group  
Attn: Lyn A. Johnson, MS-76/67  
P. O. Box 3707  
Seattle, WA 98124-2207

8. DELIVERY

Ship to Destination

FOB ORIGIN  OTHER (See below)

9. DISCOUNT FOR PROMPT PAYMENT

Net 30

10. SUBMIT INVOICES  
(4 copies unless other-wise specified) TO THE

ITEM

Block 12

ADDRESS SHOWN IN:

CODE

FACILITY CODE

11. SHIP TO/MARK FOR CODE

12. PAYMENT WILL BE MADE BY: CODE

As specified in Task Assignments & Contract Exhibit C

Financial Management Division, M/S 175  
NASA, Langley Research Center  
Hampton, VA 23681-0001

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION

10 U.S.C. 2304(c) ( 1 )  41 U.S.C. 253(c) ( )

14. ACCOUNTING AND APPROPRIATION DATA

PR: DF.1255; H2314A; \$0/PR: DFM.1144; R22187; \$200,000 (Complete)  
(Task 2); DFB.3704; H23425; \$473,587 (Complete) (Task 1)

15A. ITEM NO.

15B. SUPPLIES/SERVICES

15C. QTY

15D. UNIT

15E. UNIT PRICE

15F. AMOUNT

Advanced Subsonic Transport Noise  
Reduction Research

Base  
Option

\$5,997,941  
\$3,997,760

15G. TOTAL AMOUNT OF CONTRACT

\$9,995,701

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**CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE**

17.  CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 3 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents (s) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18.  AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number \_\_\_\_\_, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)

Lyn A. JOHNSON / CONTRACTS MANAGER

20A. NAME OF CONTRACTING OFFICER

MARYJANE Yeager

19B. NAME OF CONTRACTOR

19C. DATE SIGNED

20B. UNITED STATES OF AMERICA

20C. DATE SIGNED

BY Lyn A. Johnson  
(Signature of person authorized to sign)

Jan 8, 1997

BY MaryJane Yeager  
(Signature of Contracting Officer)

1-10-97

## PART I - THE SCHEDULE

### SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

#### B.1 SUPPLIES AND/OR SERVICES TO BE FURNISHED

The Contractor shall provide all resources (except as may be expressly stated in this contract as furnished by the Government) necessary to furnish the Description/Specifications/Work Statement in Section C.

#### B.2 ESTIMATED COST (18-52.216-81) (DEC 1988)

The total estimated cost for complete performance of this contract is \$5,997,941. See FAR clause 52.216-11, Cost Contract—No Fee, of this contract.

#### B.3 CONTRACT FUNDING (18-52.232-81) (JUN 1990)

For purposes of payment of cost, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$673,587. This allotment is for the performance of work in accordance with the limitations and completion dates as set forth in task assignments authorized by the Contracting Officer.

#### B.4 ADMINISTRATION OF CONTRACT FUNDING (LaRC 52.232-113) (JUN 1995)

The Contractor agrees that all future incremental funding shall be accomplished by Administrative Change Modification.

#### B.5 MINIMUM QUANTITY OBLIGATION, MAXIMUM QUANTITY LIMITATIONS

A. Pursuant to FAR 16.504, Indefinite-Quantity Contracts, the Government's minimum obligation for ordering services under this contract is \$1,000,000.

B. The maximum limitation for ordering services under this contract is set forth on Page 1 (Standard Form 26).

### SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

#### C.1 STATEMENT OF WORK

The basic objectives of NASA's Noise Reduction Research for Advanced Subsonic Transports are to obtain an understanding of airframe and engine noise for advanced subsonic aircraft and to define means for reducing significant noise sources. Research under this contract will contribute toward the AST Noise Reduction program goals established for engine fan tone noise, broadband noise, jet noise, airframe noise and interior noise. Research areas of interest include theoretical and experimental studies of noise control of engine fan tone and broadband noise; jet noise and airframe noise; development of advanced noise reduction concepts including advanced nacelle liners and active control; development of airframe, fan, and jet noise prediction methods including effects of active control; and measurement, prediction and control of aircraft interior noise. The Contractor shall perform specifically defined, performance based task assignments within the scope of this contract as authorized by the Contracting Officer.

## SECTION D - PACKAGING AND MARKING

### D.1 PACKAGING AND MARKING

- (a) The Contractor shall preserve, pack, and mark for shipment all items deliverable under this contract in accordance with good commercial practices and adequate to ensure both acceptance by common carrier and safe transportation at the most economical rate(s).
- (b) The Contractor's markings on shipping containers shall be clearly legible from a distance of 36 inches. The Contractor may mark by stencil, rubber stamp, or lacquer over a coated gummed label.
- (c) The Contractor shall place identical requirements on all subcontracts.

## SECTION E - INSPECTION AND ACCEPTANCE

### E.1 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 at destination by the Contracting Officer or his duly authorized representative as specified in the task assignment.

## SECTION F - DELIVERIES OR PERFORMANCE

### F.1 PERIOD OF PERFORMANCE - TASK ASSIGNMENTS (LaRC 52.212-112) (JUL 1989)

- (a) The period for issuance of task assignments is 36 months from the effective date of this contract.
- (b) Any task assignments issued prior to the expiration of the period for issuance of task assignments shall be completed, subject to the limitations specified in B.3.; provided that the Contractor will not be required to perform any work beyond 12 months after the period for issuing task assignments.

### F.2 PLACE OF PERFORMANCE (LaRC 52.212-98) (OCT 1992)

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

### F.3 ORAL PRESENTATIONS)

The Contractor shall make oral presentation(s) as specified in task assignments. The specific dates of the presentations shall be mutually selected by the Contracting Officer's Technical Representative (COTR) and the Contractor. The presentation(s) shall include a review of all work accomplished during task performance. The presentation(s) shall also include a brief summary of reportable items under the Section I clause entitled "New Technology."

## SECTION G - CONTRACT ADMINISTRATION DATA

### G.1 SUBMISSION OF VOUCHERS FOR PAYMENT (18-52.216-87) (DEC 1988)

- (a) Public vouchers for payment of costs shall include a reference to this contract NAS1-97040 and your Taxpayer Identification Number, and be forwarded to:

NASA Langley Research Center  
Attn: Financial Management Division, MS 175  
Hampton, VA 23681-0001

This is the designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract.

Cost vouchers shall be submitted through the cognizant Defense Contract Audit Agency.

(b) The Contractor shall prepare vouchers as follows:

- attachment.
- (1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment.
  - (2) Four copies of SF 1034A, SF 1035A, or equivalent Contractor's attachment.
  - (3) The Contractor shall mark SF 1034A copies 1, 2, 3, 4 and such other copies as may be directed by the Contracting Officer by insertion in the memorandum block the names and addresses as follows:
    - (i) Copy 1 NASA Contracting Officer;
    - (ii) Copy 2 Auditor;
    - (iii) Copy 3 Contractor;
    - (iv) Contract Administration Office

(c) Cost payments shall be made monthly.

(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.

#### G.2 TASK ASSIGNMENTS (LaRC 52.212-102) (OCT 1991)

(a) The work to be performed within the areas outlined in Section C, Description/ Specifications/Work Statement, will be more specifically defined and controlled by means of written task assignments, issued solely by the Contracting Officer, containing the following information:

- (1) Task assignment number and date
- (2) Description of work and/or deliverable items
- (3) Total cost limitation
- (4) Required completion date and/or delivery schedule
- (5) Task monitor with name and phone number
- (6) Government-furnished property, if applicable
- (7) Appropriate special instructions or information

(b) A copy of each task assignment shall be furnished to the Contractor. To acknowledge receipt, the Contractor shall sign the "Acknowledgment" enclosed and return it to the Contracting Officer.

**G.3 PAYMENT ADDRESS (LaRC 52.232-93) (SEP 1994)**

(a) In accordance with the "Prompt Payment" clause, if payment is made by check, the address to which payment should be sent is.

Boeing Commercial Airplane Group

P. O. Box 3707

Seattle, WA 98124

Attn: Sales Accounting 6X-UF

(b) If payment is made by electronic funds transfer, payment will be forwarded to the financial institution and account identified in the Standard Form 3881 executed by the Contractor.

**G.4 CONTRACT CLOSEOUT (LaRC 52.242-90) (JUN 1988)**

(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. 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 126, who may be reached by telephone at (804) 864-2462.

(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.

**G.6 LIST OF GOVERNMENT-FURNISHED PROPERTY (NASA 18-52.245-76)  
(OCT 1988)**

For the performance of work under this contract, the Government will make available Government property identified below on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at the Contractor's facility and at other location(s) as may be approved by the Contracting Officer. Under the FAR 52.245 Government Property clause of this contract, the Contractor is accountable for the identified property.

<u>Item</u>	<u>Quantity</u>	<u>Acquisition Cost</u>	<u>Date to be Furnished to the Contractor</u>
1. Phased Array Hardware	1 set	\$ 39,000	Currently in BCAG possession
2. Fan Rig Test Hardware	1 set	160,000	Currently in BCAG possession
3. Transducers (48 B&K mics)	1 set	35,000	Currently in BCAG possession
4. Instrumentation Adaptors (29 flex necks)	1 set	20,000	Currently in BCAG possession
5. Anemometry Sensors	1 set	10,000	Currently in BCAG possession
6. Additional Fan Rig Hardware	1 set	20,000	Currently in BCAG possession

### SECTION H - SPECIAL CONTRACT REQUIREMENTS

#### H.1 RIGHTS TO PROPOSAL DATA (TECHNICAL) (FAR 52.227-23) (JUN 1987)

Except for data contained in BCAG Cost Proposals, Volume II dated August 13, 1996 and November 19, 1996, and BCAG's "Firm [Cost] Proposal" dated December 18, 1996, 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 proposals dated August 13, 1996 and November 19, 1996, upon which this contract is based.

#### H.2 PRICE OPTIONS/EXTENDED TERMS

Pursuant to I.1., FAR 52.217-9, Option to Extend the Term of the Contract, the Contractor hereby grants to the Government an option to extend the term of the contract for one additional period of twenty-four months. Such option is to be exercisable by issuance of a unilateral modification. Upon exercise of such option by the Government, the contract will be increased as follows:

- (a) Period for Issuance of Task Assignments - additional twenty four months
- (b) Period of Performance - additional thirty-six months (up to twelve months beyond last task issuance)
- (c) Cost limitation - \$3,997,760

#### H.3 ADVANCE APPROVAL FOR RELEASE OF TECHNICAL INFORMATION (LaRC 52.227-92) (OCT 1993)

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 Technical Representative (COTR) for review and concurrence with subsequent approval by the cognizant NASA Headquarters Program Office prior to establishing claim to copyright, publication, presentation, or release to others. The Contractor may proceed upon receipt of written concurrence by the COTR as though approval also had been received from the cognizant NASA Headquarters Program Office, unless directed otherwise in the COTR concurrence letter. The Contractor may also proceed as though approval had been received if the COTR does not respond to the Contractor's request within three months of such request. Nothing contained in this special provision shall prevent the Contractor from seeking and obtaining domestic or foreign patent protection for any subject invention to which NASA has been waived in accordance with NASA regulations.

#### H.4 INCORPORATION OF THE REPRESENTATIONS AND CERTIFICATIONS BY REFERENCE

Pursuant to FAR 15.406-1(b), the Representations and Certifications dated August 13, 1996 are hereby incorporated herein by reference.

#### H.5 SUBCONTRACTING PLAN

The approved Contractor plan for subcontracting with small business and small disadvantaged business concerns is attached hereto as Exhibit A.

#### H.6 LIMITED EXCLUSIVE RIGHTS

A. In order to protect valuable technical data and computer software from unauthorized or inadvertent transfer, the availability of certain technical data and computer software produced under this contract shall be limited to distribution only within the United States to designated entities, with the approval of NASA. Protection will be provided under a special data rights clause affording the Contractor limited exclusive rights, "Rights in Data - Limited Exclusive Rights," set forth below.

B. The technical data and computer software to be protected will be specifically identified in Paragraph "C" below. Although some data may be identified at the time of negotiation of the contract, it is anticipated that other data warranting protection will be identified during the performance of the contract.

C. The parties do hereby agree that the following data should be provided special protection in accordance with the provision and the clause entitled "Rights in Data - Limited Exclusive Rights."

Contract Provision H.7 identifies the types of data anticipated to be produced under this contract. This data falls into the following categories: Engine Noise Reduction; Nacelle Aeroacoustics; Integration and Systems Evaluation; Interior Noise; and Community Impact. Provision H.7 identifies the types of data within the above categories that generally would, or would not be subject to "Limited Exclusive Rights Notice." However, the identification of any data subject to Limited Exclusive Rights shall be made by individual Task Assignment.

D. In addition, NASA will require executive summaries conveying accomplishments of this contract which can be published with unrestricted availability. Accordingly; if the data is subject to the special protection, the Contractor will provide an executive summary containing form, fit, and function data relating to the work performed when providing reports as specified in Section J, Exhibit C.

#### RIGHTS IN DATA - LIMITED EXCLUSIVE RIGHTS (JAN 1992)

##### (a) Definitions.

"Computer software," as used in this clause, means computer programs, computer data bases, and documentation thereof.

"Data," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

"Form, fit, and function data," as used in this clause, means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, as well as data identifying source, size, configuration, mating, and attachment characteristics, functional characteristics, and performance requirements; except that for computer software means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software.

"Limited exclusive rights," as used in this clause, means the rights of the Government and others acting on its behalf to use, duplicate, and disclose for Government purposes, the rights of the Contractor to use, duplicate, and disclose for its purposes within the United States, and the rights of other

entities designated or approved by the Government to use and duplicate (but not to further disclose) for their purposes within the United States, provided that in all instances the data are made subject to disclosure restrictions that protect and preserve its limited exclusive rights.

"Limited exclusive rights data," as used in this clause, means technical data (including system studies and computer source programs and code) first produced in the performance of this contract that have been specifically identified in this contract (either at the time of contract or subsequently by amendment) as subject to limited exclusive rights, provided such data are not generally known, or such data have not without obligation as to its confidentiality been made available to others by the Contractor or are not already available to the Government. The limited exclusive rights of the Government, the Contractor, and other entities regarding the disclosure and use of such data are as set forth in subparagraph (g)(4) of this clause.

"Limited rights," as used in this clause, means the rights of the Government in limited rights data as set forth in the Limited Rights Notice of subparagraph (g)(2) if included in this clause.

"Limited rights data," as used in this clause, means data (other than computer software) developed at private expense that embody trade secrets or are commercial or financial and confidential or privileged, including minor modifications thereof.

"Restricted computer software," as used in this clause, means computer software developed at private expense and that is a trade secret; is commercial or financial and is confidential or privileged; or is published copyrighted computer software; including minor modifications of such computer software.

"Restricted rights," as used in this clause, means the rights of the Government in restricted computer software, as set forth in a Restricted Rights Notice of subparagraph (g)(3) if included in this clause, or as otherwise may be provided in a collateral agreement incorporated in and made part of this contract, including minor modifications of such computer software.

"Technical data," as used in this clause, means data (other than computer software) which are of a scientific or technical nature.

"Unlimited rights," as used in this clause, means the right of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) Allocation of rights.

(1) Except as provided in paragraph (c) of this clause regarding copyright, the Government shall have unlimited rights in -

(i) Data first produced in the performance of this contract unless provided otherwise for limited exclusive rights data in accordance with subparagraph (g)(4) of this clause;

(ii) Form, fit, and function data delivered under this contract;

(iii) Data delivered under this contract (except for restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under this contract; and

(iv) All other data delivered under this contract unless provided otherwise for limited rights data, restricted computer software, or limited exclusive rights data in accordance with paragraph (g) of this clause.

(2) The Contractor shall have the right to -

(i) Use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, unless provided otherwise in paragraph (d) of this clause or in subparagraph (g)(4) of this clause;

(ii) Protect from unauthorized disclosure and use those data which are limited rights data, restricted computer software, or limited exclusive rights data, to the extent provided in paragraph (g) of this clause;

(iii) Substantiate use of, add or correct limited rights, restricted rights, limited exclusive rights, or copyright notices and to take other appropriate action, in accordance with paragraphs (e) and (f) of this clause; and

(iv) Establish claim to copyright subsisting in data first produced in the performance of this contract to the extent provided in subparagraph (c)(1) of this clause.



## (c) Copyright.

(1) Data first produced in the performance of this contract. Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer, claim to copyright subsisting in scientific and technical articles based on or containing data first produced in the performance of this contract and published in academic, technical or professional journals, symposia proceedings or similar works. The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract. When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For data other than computer software, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. For computer software, the Contractor grants to the Government and others acting in its behalf, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly by or on behalf of the Government.

(2) Data not first produced in the performance of this contract. The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contains the copyright notice of 17 U.S.C. 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in subparagraph (c)(1) of this clause; provided, however, that if such data are computer software the Government shall acquire a copyright license as set forth in subparagraph (g)(3) of this clause if included in this contract or as otherwise may be provided in a collateral agreement incorporated in or made part of this contract.

(3) Removal of copyright notices. The Government agrees not to remove any copyright notices placed on data pursuant to this paragraph (c), and to include such notices on all reproductions of the data.

## (d) Release, publication and use of data.

(1) The Contractor shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, except to the extent such data may be subject to the Federal export control or national security laws or regulations, or unless otherwise provided in this paragraph, in paragraph (g) of this clause or as expressly set forth in this contract.

(2) The Contractor agrees that to the extent it receives or is given access to data necessary for the performance of this contract which contain restrictive markings, the Contractor shall treat the data in accordance with such markings unless otherwise specifically authorized in writing by the Contracting Officer.

(3) The Contractor agrees not to establish claim to copyright or publish or release to others any computer software first produced in the performance of this contract other than pursuant to subparagraph (g)(4) of this clause without the Contracting Officer's prior written permission.

## (e) Unauthorized marking of data.

(1) Notwithstanding any other provisions of this contract concerning inspection or acceptance, if any data delivered under this contract are marked with the notices specified in subparagraph (g)(2), (g)(3) or (g)(4) of this clause and use of such is not authorized by this clause, or if such data bears any other restrictive or limiting markings not authorized by this contract, the Contracting Officer may at any time either return the data to the Contractor, or cancel or ignore the markings. However, the following procedures shall apply prior to canceling or ignoring the markings.

(i) The Contracting Officer shall make written inquiry to the Contractor affording the Contractor 30 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;

(ii) If the Contractor fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 30-day period (or a longer time not exceeding 90 days approved in writing by the Contracting Officer for good cause shown), the Government shall have the

right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.

(iii) If the Contractor provides written justification to substantiate the propriety of the markings within the period set in subdivision (e)(1)(i) of this clause, the Contracting Officer shall consider such written justification and determine whether or not the markings are to be canceled or ignored. If the Contracting Officer determines that the markings are authorized, the Contractor shall be so notified in writing. If the Contracting Officer determines, with concurrence of the head of the contracting activity, that the markings are not authorized, the Contracting Officer shall furnish the Contractor a written determination, which determination shall become the final agency decision regarding the appropriateness of the markings unless the Contractor files suit in a court of competent jurisdiction within 90 days of receipt of the Contracting Officer's decision. The Government shall continue to abide by the markings under this subdivision (e)(1)(iii) until final resolution of the matter either by the Contracting Officer's determination becoming final (in which instance the Government shall thereafter have the right to cancel or ignore the markings at any time and the data will no longer be made subject to any disclosure prohibitions), or by final disposition of the matter by court decision if suit is filed.

(2) The time limits in the procedures set forth in subparagraph (e)(1) of this clause may be modified in accordance with agency regulations implementing the Freedom of Information Act (5 U.S.C. 552) if necessary to respond to a request thereunder.

(3) This paragraph (e) does not apply if this contract is for a major system or for support of a major system by a civilian agency other than NASA and the U.S. Coast Guard agency subject to the provisions of Title III of the Federal Property and Administrative Services Act of 1949.

(4) Except to the extent the Government's action occurs as the result of final disposition of the matter by a court of competent jurisdiction, the Contractor is not precluded by this paragraph (e) from bringing a claim under the Contract Disputes Act, including pursuant to the Disputes clause of this contract, as applicable, that may arise as the result of the Government removing or ignoring authorized markings on data delivered under this contract.

(f) Omitted or incorrect markings.

(1) Data delivered to the Government without either the limited rights, restricted rights, or limited exclusive rights notice as authorized by paragraph (g) of this clause, or the copyright notice required by paragraph (c) of this clause, shall be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use, or reproduction of such data. However, to the extent the data has not been disclosed without restriction outside the Government, the Contractor may request, within 6 months (or a longer time approved by the Contracting Officer for good cause shown) after delivery of such data, permission to have notices placed on qualifying data at the Contractor's expense, and the Contracting Officer may agree to do so if the Contractor -

- (i) Identifies the data to which the omitted notice is to be applied;
- (ii) Demonstrates that the omission of the notice was inadvertent;
- (iii) Establishes that the use of the proposed notice is authorized; and
- (iv) Acknowledges that the Government has no liability with respect to the

disclosure, use, or reproduction of any such data made prior to the addition of the notice or resulting from the omission of the notice.

(2) The Contracting Officer may also (i) permit correction at the Contractor's expense of incorrect notices if the Contractor identifies the data on which correction of the notice is to be made, and demonstrates that the correct notice is authorized, or (ii) correct any incorrect notices.

(g) Protection of limited rights data, restricted computer software, and limited exclusive rights data.

(1) When data other than that listed in subdivisions (b)(1)(i), (ii), and (iii) of this clause are specified to be delivered under this contract and qualify as either limited rights data or restricted computer software, if the Contractor desires to continue protection of such data, the Contractor shall withhold such data and not furnish them to the Government under this contract. As a condition to this withholding, the Contractor shall identify the data being withheld and furnish form, fit, and function data in lieu thereof. Limited rights data that are formatted as a computer data base for delivery to the Government are to be treated as limited rights data and not restricted computer software.

(2) Notwithstanding subparagraph (g)(1) of this clause, the contract may identify and specify the delivery of limited rights data, or the Contracting Officer may require by written request the delivery of limited rights data that has been withheld or would otherwise be withholdable. If delivery of

such data is so required, the Contractor may affix the following "Limited Rights Notice" to the data and the Government will thereafter treat the data, subject to the provisions of paragraph (e) and (f) of this clause in accordance with such Notices:

LIMITED RIGHTS NOTICE (JUN 1987)

- (a) These data are submitted with limited rights under Government Contract \_\_\_\_\_ (and subcontracting \_\_\_\_\_, if appropriate). These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Contractor, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any, provided that the Government makes such disclosure subject to prohibition against further use and disclosure: {Agencies may list additional purposes as set forth in 27.404(d)(1) or if none, so state}.
- (b) This Notice shall be marked on any reproduction of these data, in whole or in part.

(End of Notice)

(3)(i) Notwithstanding subparagraph (g)(1) of this clause, the contract may identify and specify the delivery of restricted computer software, or the Contracting Officer may require by written request the delivery of restricted computer software that has been withheld or would otherwise be withholdable. If delivery of such computer software is so required, the Contractor may affix the following "Restricted Rights Notice" to the computer software and the Government will thereafter treat the computer software, subject to the provisions of paragraph (e) and (f) of this clause in accordance with the Notice:

RESTRICTED RIGHTS NOTICE (JUN 1987)

- (a) This computer software is submitted with restricted rights under Government Contract No. \_\_\_\_\_ (and subcontract \_\_\_\_\_, if appropriate). It may not be used, reproduced, or disclosed by the Government except as provided in paragraph (b) of this Notice or as otherwise expressly stated in the contract.
- (b) This computer software may be -
- (1) Used or copied for use in or with the computer or computers for which it was acquired, including use at any Government installation to which such computer or computers may be transferred;
  - (2) Used or copied for use in a backup computer if any computer for which it was acquired is inoperative;
  - (3) Reproduced for safekeeping (archives) or backup purposes;
  - (4) Modified, adapted, or combined with other computer software, provided that the modified, combined, or adapted portions of the derivative software incorporating restricted computer software are made subject to the same restricted rights;
  - (5) Disclosed to and reproduced for use by support service Contractors in accordance with subparagraphs (b)(1) through (4) of this clause, provided the Government makes such disclosure or reproduction subject to these restricted rights; and
  - (6) Used or copied for use in or transferred to a replacement computer.
- (c) Notwithstanding the foregoing, if this computer software is published copyrighted computer software, it is licensed to the Government, without disclosure prohibitions, with the minimum rights set forth in Paragraph (b) of this clause.
- (d) Any other rights or limitations regarding the use, duplication, or disclosure of this computer software are to be expressly stated in, or incorporated in the contract.
- (e) This Notice shall be marked on any reproduction of this computer software, in whole or in part.

(End of Notice)

(ii) Where it is impractical to include the Restricted Rights Notice on restricted computer software, the following short-form Notice may be used in lieu thereof:

## RESTRICTED RIGHTS NOTICE SHORT FORM (JUN 1987)

Use, reproduction, or disclosure is subject to restrictions set forth in Contract No. \_\_\_\_\_  
 (and subcontract \_\_\_\_\_, if appropriate) with \_\_\_\_\_  
 (name of Contractor and subcontractor).

(End of Notice)

(iii) If restricted computer software is delivered with the copyright of 17 U.S.C. 401, it will be presumed to be published copyrighted computer software licensed to the Government without disclosure prohibitions, with the minimum rights set forth in paragraph (b) of this clause, unless the Contractor includes the following statement with such copyright notice: "Unpublished - rights reserved under the Copyright Laws of the United States."

(4) (i) Notwithstanding any other provisions of this clause, the contract may specify or NASA may require by written request that any data first produced in the performance of this contract be delivered to NASA or furnished to others in accordance with (iii)(a) below, and if so specified or required, the contractor shall affix the following "Limited Exclusive Rights Notice" to data that are identified in this contract as limited exclusive rights data prior to delivery to the Government or prior to release to others by the Contractor:

## LIMITED EXCLUSIVE RIGHTS NOTICE

These data are subject to limited exclusive rights under Government Contract No. \_\_\_\_\_ (and subcontract \_\_\_\_\_, if appropriate). These data may be: used, duplicated, and disclosed by or on behalf of the Government for Government purposes; used, duplicated, and disclosed by or on behalf of the Contractor for its purposes within the United States; and used and duplicated (but not further disclosed) by other recipients that have been designated or approved by NASA as participants in the program of which this contract is a part for their purposes within the United States, with the express limitation that any release or disclosure for any of the foregoing purposes are to be made subject to disclosure conditions that protect and preserve its limited exclusive rights. These limited exclusive rights shall be effective until \_\_\_\_\_ (insert a date certain). No other disclosure and use of these data is authorized without the written permission of \_\_\_\_\_ (insert name of contractor or subcontractor). This Notice shall be marked on any reproduction of these data, in whole or in part.

(End of Notice)

(ii) The Contractor is to place the Limited Exclusive Rights Notice on limited exclusive rights data as soon as practicable after the data is reduced to some tangible, recorded form as defined by the term "data" in this clause, but in any event no later than the earlier of either the date of delivery to NASA if delivery is requested, or of release of the data to others outside of the Contractor's organizational element producing the data. The "date certain" to be inserted in the Notice, indicating the period of limited exclusive rights, shall be 5 years from the date the Notice is placed on the data, unless otherwise agreed to and stated with respect to any item, component, process, or computer software specifically identified in this contract.

(iii) The Contractor agrees:

- (a) to make limited exclusive rights data available to any other entity designated or approved by NASA as a participant in the program of which this contract is a part, either as specifically designated in this contract or as subsequently approved and directed in writing by NASA;
- (b) obtain written affirmation that any entity receiving limited exclusive rights data pursuant to (a) above will abide by the use, duplication, and disclosure prohibitions of the Limited Exclusive Rights Notice; and

(c) not to authorize any disclosure and use of limited exclusive rights data than as set forth in the Limited Exclusive Rights Notice without the concurrence of NASA.

(h) Subcontracting.

(1) The Contractor has the responsibility to obtain from its subcontractors all data and rights therein necessary to fulfill the Contractor's obligations to the Government under this contract. If a subcontractor refuses to accept terms affording the Government such rights, the Contractor shall promptly bring such refusal to the attention of the Contracting Officer and not proceed with subcontract award without further authorization.

(i) Relationship to patents.

(1) Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government.

(2) Nothing in this clause shall restrict the rights of the contractor under the New Technology clause of this contract.

(j) Immigrant Aliens.

(1) For the purposes of this clause, disclosure of "limited exclusive rights data" to Immigrant Aliens in the course of their employment by the Contractor shall not be interpreted as disclosure outside the United States. An immigrant alien is defined as "any person lawfully admitted in the United States under an immigration visa for permanent residence."

#### H.7 Categories and Types of Data Subject, or Not Subject, to Limited Exclusive Rights

It is anticipated that data produced or delivered under this will fall under the following categories: Engine Noise Reduction; Nacelle Aeroacoustics; Integration and Systems Evaluation; Interior Noise; and Community Impact. Within these categories, it is anticipated that the identified data will, or will not, be subject to Limited Exclusive Rights (LER). This information is provided as a general guide and does not preclude other data not already identified from being identified as subject, or not subject to LER, nor does it prevent any identified data herein from being determined on an individual basis as subject or not subject to LER, notwithstanding the following listing. It is noted that the actual determination of data subject to LER shall be identified in individual Task Assignments, notwithstanding any categorizations in this Provision H.7.

#### *Engine Noise Reduction*

##### Anticipated to be Subject to LER

- Descriptions and details of test methods, equipment, and instrumentation specific to AST components, subcomponents, and/or configurations.
- Drawings, sketches, artist concepts, etc. of components or subcomponents with details and/or geometric dimensions or weights (such as rotational speeds, pressures, temperatures, aerodynamic performance, cooling flows, and component weights).
- Portions or cutaway sections of engine or component drawings, sketches, etc., showing details and/or geometric dimensions.
- Noise measurements and calculations for AST full-scale or model configurations.
- Component, rig, or engine test data, analysis, and correlations when associated with detailed configuration and/or design definitions.
- Relative component noise reduction benefit of new noise reduction technology.

##### Anticipated to Not be Subject to LER

- General engine configurations and/or overall geometric dimensions or weights.
- General overall projected or predicted engine characteristics such as thrust levels, mass flows, acoustics, engine emissions, and efficiency.
- General component, engine or aircraft goals, requirements or missions.
- Non-scaleable drawings, sketches, artist conceptions, etc. of candidate components or engine configurations without details and geometric dimensions of weights.

- Comparisons of cycle variations within a specific propulsion concept, provided a relative (not absolute) figure of merit is used.
- General engine performance predictions.
- General plans and milestones.
- Relative aircraft system or engine system level noise reduction benefit of new technology.

### ***Nacelle Aeroacoustics***

#### **Anticipated to be Subject to LER**

- Geometric descriptions of low noise hardware.
- Relative component noise reduction benefit of new noise reduction component technology.

#### **Anticipated to Not be Subject to LER**

- Relative aircraft system or engine system level noise reduction benefit of new technology.
- Results from generic and diagnostic predictions and measurements.

### ***Integration and Systems Evaluation***

#### **Anticipated to be Subject to LER**

- Geometric descriptions of low noise hardware that is not covered under patent application.
- Relative noise reduction benefit of new noise reduction component technology.

#### **Anticipated to Not be Subject to LER**

- General description of Noise Prediction Methods (e.g., ANOPP).
- Aerodynamic and acoustic data and analysis on generic configurations.
- Relative aircraft system or engine system level noise reduction benefit of new technology.

### ***Interior Noise***

#### **Anticipated to be Subject to LER**

- Aircraft Finite Element Models.
- Structural acoustic prediction codes developed specifically under AST funding.
- Design studies or optimization results involving realistic aircraft design criteria.
- Controller codes used for interior noise control.
- New or improved noise control concepts.
- Interior noise levels of any commercially available aircraft.

#### **Anticipated to Not be Subject to LER**

- Passenger response or acceptance criteria.
- Generic structural acoustic modeling and noise reduction results.
- Source noise models (i.e., boundary layer, jet noise..).
- Active control results not specifically excluded above.

### ***Community Impact***

#### **Anticipated to be Subject to LER**

- None

**Anticipated to Not be Subject to LER**

- Human response criteria tests.

**H.8 Recipient and Participants.**

The following are identified as designated or approved recipients/participants as set forth under "Rights in Data - Limited Exclusive Rights" (g)(4)(i): AST Noise Reduction contractors and subcontractors; AST Noise Reduction Technical Working Group; and AST Noise Reduction Steering Committee.

**PART II - CONTRACT CLAUSES**

**I.1. CLAUSES INCORPORATED BY REFERENCE (52.252-2) (JUN 1988)**

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.

**NOTICE:** The following clauses are hereby incorporated by reference.

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

52.202-1	Definitions (Oct 1995)
52.203-3	Gratuities (Apr 1984)
52.203-6	Restrictions on Subcontractor Sales to the Government (Jul 1995)
52.203-7	Anti-Kickback Procedures (Jul 1995)
52.203-9	Requirement for Certificate of Procurement Integrity—Modification (Sep 1995)
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity (Sep 1990)
52.203-12	Limitation on Payments to Influence Certain Federal Transactions (Jan 1990)
52.204-4	Printing/Copying Double-Sided on Recycled Paper (May 1995)
52.209-6	Protecting the Government's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (Jul 1995)
52.211-15	Defense Priority and Allocation Requirements (Sep 1990)
52.215-2	Audit and Records -- Negotiation (Aug 1996)
52.215-22	Price Reduction for Defective Cost or Pricing Data (Oct 1995)
52.215-24	Subcontractor Cost or Pricing Data (Oct 1995)
52.215-26	Integrity of Unit Prices (Oct 1995)—Alternate I (Apr 1991)
52.215-27	Termination of Defined Benefit Pension Plans (Mar 1996) [THE BOEING COMPANY AND THE GOVERNMENT HAVE ENTERED INTO AN ADVANCE AGREEMENT DATED JUNE 20, 1996 AND AMENDED DECEMBER 20, 1989 AND MAY 17, 1995, WHICH DEFINES THE METHODOLOGY BY WHICH THE GOVERNMENT AND BOEING WILL COMPLETE ANY EQUITABLE ADJUSTMENT THAT MAY BECOME DUE TO THE GOVERNMENT UNDER FAR 52.215-27.]
52.215-30	Facilities Capital Cost of Money (Sep 1987)
52.215-33	Order of Precedence (Jan 1986)
52.215-39	Reversion or Adjustment of Plans for Post Retirement Benefits Other than Pensions (Mar 1996)
52.215-40	Notification of Ownership Changes (Feb 1995)
52.215-42	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data - Modifications (Oct 1995)
52.216-7	Allowable Cost and Payment (Jul 1991)
52.216-11	Cost Contract—No Fee (Apr 1984)
52.217-9	Option To Extend The Term Of The Contract (Jun 1987) *36 months; 72 months
52.219-8	Utilization of Small, Small Disadvantaged and Women-Owned Small Business Concerns (Oct 1995)
52.219-9	Small, Small Disadvantaged and Women Owned Small Business Subcontracting Plan (Oct 1995)

52.219-16	Liquidated Damages -- Subcontracting Plan (Oct 1995)
52.222-1	Notice to the Government of Labor Disputes (Apr 1984)
52.222-2	Payment for Overtime Premiums (Jul 1990) * \$0
52.222-3	Convict Labor (Apr 1984)
52.222-26	Equal Opportunity (Apr 1984)
52.222-28	Equal Opportunity Preaward Clearance of Subcontracts (Apr 1984)
52.222-35	Affirmative Action for Special Disabled and Vietnam Era Veterans (Apr 1984)
52.222-36	Affirmative Action for Handicapped Workers (Apr 1984)
52.222-37	Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era (Jan 1988)
52.223-2	Clean Air and Water (Apr 1984)
52.223-6	Drug-Free Workplace (Jul 1990)
52.225-11	Restrictions on Certain Foreign Purchases (Oct 1996)
52.225-19	European Union Sanction for Services (Jan 1996)
52.226-1	Utilization of Indian Organizations and Indian-Owned Economic Enterprises (Sep 1996)
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)
52.227-12	Patent Rights—Retention by the Contractor (Long Form) (Jun 1989)
52.227-16	Additional Data Requirements (Jun 1987) [AS AUTHORIZED BY FAR 27.406(B)(2), THE TERM "OR SPECIFICALLY USED" IS DELETED FROM PARAGRAPH (A) OF 52.227-16, ADDITIONAL DATA RIGHTS.]
52.228-7	Insurance—Liability to Third Persons (Mar 1996)
52.230-2	Cost Accounting Standards (Aug 1992)
52.230-3	Disclosure and Consistency of Cost Accounting Practices (Nov 1993)
52.230-5	Administration of Cost Accounting Standards (Feb 1995)
52.232-9	Limitation on Withholding Payments (Apr 1984)
52.232-17	Interest (Jan 1991)
52.232-18	Availability of Funds (Apr 1984)
52.232-22	Limitation of Funds (Apr 1984)
52.232-23	Assignment of Claims (Jan 1986)
52.232-25	Prompt Payment (Mar 1994) 30th day
52.232-33	Mandatory Information for Electronic Funds Transfer Payment (Aug 1996)
52.232-34	Optional Information for Electronic Funds Transfer Payment (Aug 1996)
52.233-1	Disputes (Oct 1995) -- Alternate I (Oct 1995)
52.233-3	Protest after Award (Aug 1996) -- Alternate I (Jun 1985)
52.242-1	Notice of Intent to Disallow Costs (Apr 1984)
52.242-3	Penalties for Unallowable Costs (Oct 1995)
52.242-4	Certification of Indirect Costs (Oct 1995)
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 (Cost-Reimbursement and Letter Contracts) (Mar 1996) -- Alternate I (Aug 1996)
52.244-5	Competition in Subcontracting (Jan 1996)
52.244-6	Subcontracts for Commercial Items and Commercial Components (Oct 1995)
52.245-5	Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) (Jan 1986) (Deviation) (Jul 1995)
52.246-9	Inspection of Research and Development (Short Form) (Apr 1984)
52.246-23	Limitation of Liability (Apr 1984)
52.249-6	Termination (Cost-Reimbursement) (Sep 1996)
52.249-14	Excusable Delays (Apr 1984)



- 52.252-6 Authorized Deviations in Clauses (Apr 1984)  
*NASA FAR Supplement (48 CFR Chapter 18)*  
 52.253-1 Computer Generated Forms (Jan 1991)

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

- 18-52.212-70 Notice of Delay (Dec 1988)  
 18-52.215-84 Ombudsman (Oct 1996)  
*LaRC: Belinda Adams. Call Sandra S. Ray, (757) 864-2428*  
*NASA: Thomas S. Luedtke, (202) 358-2090*  
 18-52.216-89 Assignment and Release Forms (Oct 1996)  
 18-52.219-74 Use of Rural Area Small Businesses (Sep 1990)  
 18-52.219-75 Small Business and Small Disadvantaged Business Subcontracting Reporting  
 (Oct 1995)  
 18-52.219-76 NASA Small Disadvantaged Business Goal (Jul 1991)  
 18-52.227-70 New Technology (Jul 1995)  
 18-52.227-72 Designation of New Technology Representative and Patent Representative  
 (Apr 1984)  
*New Technology Representative, MS-212, NASA Langley Research Center,  
 Hampton, VA 23681-0001*  
*Patent Representative, MS-212, NASA Langley Research Center, Hampton, VA  
 23681-0001*  
 18-52.235-70 Center for AeroSpace Information (Nov 1992)  
 18-52.242-70 Technical Direction (Sep 1993)  
 18-52.242-72 Observance of Legal Holidays (Aug 1992)  
 18-52.242-73 NASA Contractor Financial Management Reporting (Apr 1994)  
 18-52.244-70 Geographic Participation in the Aerospace Program (Apr 1985)  
 18-52.245-70 Acquisition of Centrally Reportable Equipment (Mar 1989)  
 18-52.245-73 Financial Reporting of Government-Owned/Contractor-Held Property (Jul 1994)

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\* Reference to NHB 9501.2B is hereby replaced with NPG 9501.2C dated April 23, 1996.

**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS****SECTION J - LIST OF ATTACHMENTS**

- Exhibit A            Subcontracting Plan, 4 pages
- Exhibit B            Procedures for the Preparation and Approval of Contractor Reports for Langley  
Research Center, Form PROC./P-72, May 1992, 4 pages
- Exhibit C            Contract Documentation Requirements, 3 pages

**SMALL BUSINESS / SMALL DISADVANTAGED BUSINESS / WOMEN-OWNED SMALL BUSINESS  
INDIVIDUAL SUBCONTRACTING PLAN**

1. DIVISION/SUBSIDIARY NAME <b>Boeing Commercial Airplane Group</b>		2. DATE <b>18 November 1996</b>	
3. <input checked="" type="checkbox"/> REQUEST FOR PROPOSAL NO. <u>1-160-DF.1255</u>	4. <input type="checkbox"/> PRIME CONTRACT NO. _____	5. <input type="checkbox"/> PRIME CONTRACT CHANGE NO. _____	
6. PROGRAM / FEDERAL AGENCY <b>Noise Reduction Research for Advanced Subsonic Transports/NASA</b>		7. ESTIMATED PERIOD OF SUBCONTRACT PERFORMANCE <u>December 1996</u> TO <u>September 1999</u> <small>(Month) (Year) (Month) (Year)</small>	
8. SUBCONTRACT PLAN ADMINISTRATOR <b>David L. Poplawski</b>		9. TELEPHONE NUMBER <b>(206) 237-3550</b>	

10. Master Small Business and Small Disadvantaged Business Subcontracting Plan D658-10340-3 , Revision 09/13/95 , Document is incorporated herein by reference. The master Subcontracting Plan has been approved by the contractor's cognizant Contract Administration Office. Name: Robert G. Ingram , Title: Principle Administrative Contracting Officer 09/13 1996 . The Master Plan includes all the elements required in a Small Business and Small Disadvantaged Subcontracting Plan except goals, planned dollars, principal supply and service areas, goal methodology, and solicitation methodology which are included in this individual Subcontract Plan.

-- DISCLOSURE STATEMENT --

*This Individual Subcontracting Plan is furnished in connection with the proposal or prime contract stated herein and shall not be disclosed, duplicated, or used in whole or in part for any purpose other than for its evaluation; provided that if a contract is awarded to this offeror as a result of or in connection with the submission of this data, the government shall have the right to duplicate, use, or disclose the data to the extent provided in the contract. This restriction does not limit the government's right to use information contained in this Individual Subcontract Plan if it is obtained from another source without restriction.*

11. GOALS Base Plan

A. Initial Prime Contract Goals

1. For the purpose of this Individual Subcontract Plan, the following separate percentage goals are hereby expressed in terms of a percentage of the total planned subcontract dollars for the instant contract identified in Block 4. The goal for small disadvantaged business while stated separately as a percentage of total planned subcontracting dollars are a subset thereof. The total planned subcontract dollars include all first-tier subcontracts to be awarded in the performance of this contract.

2. PLANNED SMALL BUSINESS DOLLARS	% GOAL	PLANNED SMALL DISADVANTAGED BUSINESS DOLLARS	% GOAL	PLANNED WOMEN-OWNED SMALL BUSINESS DOLLARS	% GOAL	TOTAL SUBCONTRACT or PRIME CONTRACT DOLLARS
\$ <u>479,354</u>	<u>8</u> %	\$ <u>479,354</u>	<u>8</u> %	\$ <u>299,596</u>	<u>5</u> %	\$ <u>5,991,923</u>

3. These goals are based upon the program requirements, the availability of qualified suppliers, and consideration of the efficient performance of this contract. The dollar values are estimates used to calculate percentage goals and do not represent subcontract dollar goals.

B. Amended Contract Goals -

The contract change cited in Block 5 above results in the following percentage goals and planned subcontract dollars for this individual contract change:

PLANNED SMALL BUSINESS DOLLARS	% GOAL	PLANNED SMALL DISADVANTAGED BUSINESS DOLLARS	% GOAL	PLANNED WOMEN- OWNED SMALL BUSINESS DOLLARS	% GOAL	TOTAL SUBCONTRACT or PRIME CONTRACT DOLLARS
\$ _____	_____ %	_____	_____ %	_____	_____ %	\$ _____

12. Describe all the principal products and services to be subcontracted, then identify those specific products and services with an asterisk (\*) where it is planned to use small business concerns, a double asterisk (\*\*) where it is planned to use small disadvantaged business concerns, and a triple asterisk (\*\*\*) where it is planned to use women-owned small business concerns.

The principle services to be subcontracted are research in the following areas:

- a) Engine lining technology \*, \*\*, & \*\*\*
- b) Boundary layer noise \* & \*\*

13. Goal Methodology - Describe the method used in developing the goals.

The goal methodology that will be used will be to thoroughly review each buy item to identify those potentially suitable for offer to:

- a) Small Business
- b) Small Disadvantaged Business
- c) Large Business

14. Solicitation Methodology - Describe the resources used to identify potential small business, women-owned small business and small disadvantaged bidders.

The resources that will be used to identify potential small business and small disadvantaged bidders are:

- a) U.S. Small Business Administration Procurement Automated source System (PASS).
- b) Boeing Small Disadvantaged Business Directory.
- c) Source List of Directories Published by "The National Minority Supplier".
- d) U.S. department of Commerce, Office of Minority Business, Development Agencies Research and Information Division.
- e) An Inventory of the Capabilities of the Historically Black Colleges and Universities and other Minority Institutions.
- f) Small Disadvantaged Trade Associations.

**SMALL BUSINESS / SMALL DISADVANTAGED BUSINESS / WOMEN-OWNED SMALL BUSINESS  
INDIVIDUAL SUBCONTRACTING PLAN**

1. DIVISION/SUBSIDIARY NAME <b>Boeing Commercial Airplane Group</b>		2. DATE <b>18 November 1996</b>	
3. <input checked="" type="checkbox"/> REQUEST FOR PROPOSAL NO. <u>1-160-DF.1255</u>	4. <input type="checkbox"/> PRIME CONTRACT NO. _____	5. <input type="checkbox"/> PRIME CONTRACT CHANGE NO. _____	
6. PROGRAM / FEDERAL AGENCY <b>Noise Reduction Research for Advanced Subsonic Transports/NASA</b>		7. ESTIMATED PERIOD OF SUBCONTRACT PERFORMANCE <u>October 1999</u> TO <u>September 2001</u> <small>(Month) (Year) (Month) (Year)</small>	
8. SUBCONTRACT PLAN ADMINISTRATOR <b>David L. Poplawski</b>		9. TELEPHONE NUMBER <b>(206) 237-3550</b>	

10. Master Small Business and Small Disadvantaged Business Subcontracting Plan Document D658-10340-3 , Revision 09/13/95 is incorporated herein by reference. The master Subcontracting Plan has been approved by the contractor's cognizant Contract Administration Office. Name: Robert G. Ingram , Title: Principle Administrative Contracting Officer 09/13 1996 . The Master Plan includes all the elements required in a Small Business and Small Disadvantaged Subcontracting Plan except goals, planned dollars, principal supply and service areas, goal methodology, and solicitation methodology which are included in this individual Subcontract Plan.

**-- DISCLOSURE STATEMENT --**

*This Individual Subcontracting Plan is furnished in connection with the proposal or prime contract stated herein and shall not be disclosed, duplicated, or used in whole or in part for any purpose other than for its evaluation; provided that if a contract is awarded to this offeror as a result of or in connection with the submission of this data, the government shall have the right to duplicate, use, or disclose the data to the extent provided in the contract. This restriction does not limit the government's right to use information contained in this Individual Subcontract Plan if it is obtained from another source without restriction.*

**11. GOALS Optional 2 Years**

**A. Initial Prime Contract Goals**

1. For the purpose of this Individual Subcontract Plan, the following separate percentage goals are hereby expressed in terms of a percentage of the total planned subcontract dollars for the instant contract identified in Block 4. The goal for small disadvantaged business while stated separately as a percentage of total planned subcontracting dollars are a subset thereof. The total planned subcontract dollars include all first-tier subcontracts to be awarded in the performance of this contract.

2. PLANNED SMALL BUSINESS DOLLARS	% GOAL	PLANNED SMALL DISADVANTAGED BUSINESS DOLLARS	% GOAL	PLANNED WOMEN-OWNED SMALL BUSINESS DOLLARS	% GOAL	TOTAL SUBCONTRACT or PRIME CONTRACT DOLLARS
\$ <u>319,809</u>	<u>8</u> %	\$ <u>319,809</u>	<u>8</u> %	\$ <u>199,880</u>	<u>5</u> %	\$ <u>3,997,607</u>

3. These goals are based upon the program requirements, the availability of qualified suppliers, and consideration of the efficient performance of this contract. The dollar values are estimates used to calculate percentage goals and do not represent subcontract dollar goals.

**B. Amended Contract Goals -**

The contract change cited in Block 5 above results in the following percentage goals and planned subcontract dollars for this individual contract change:

PLANNED SMALL BUSINESS DOLLARS	% GOAL	PLANNED SMALL DISADVANTAGED BUSINESS DOLLARS	% GOAL	PLANNED WOMEN-OWNED SMALL BUSINESS DOLLARS	% GOAL	TOTAL SUBCONTRACT or PRIME CONTRACT DOLLARS
\$ _____	_____ %	_____	_____ %	_____	_____ %	\$ _____

12. Describe all the principal products and services to be subcontracted, then identify those specific products and services with an asterisk (\*) where it is planned to use small business concerns, a double asterisk (\*\*) where it is planned to use small disadvantaged business concerns, and a triple asterisk (\*\*\*) where it is planned to use women-owned small business concerns.

The principle services to be subcontracted are research in the following areas:

- a) Engine lining technology \*, \*\*, & \*\*\*
- b) Boundary layer noise \* & \*\*

13. Goal Methodology - Describe the method used in developing the goals.

The goal methodology that will be used will be to thoroughly review each buy item to identify those potentially suitable for offer to:

- a) Small Business
- b) Small Disadvantaged Business
- c) Large Business

14. Solicitation Methodology - Describe the resources used to identify potential small business, women-owned small business and small disadvantaged bidders.

The resources that will be used to identify potential small business and small disadvantaged bidders are:

- a) U.S. Small Business Administration Procurement Automated source System (PASS).
- b) Boeing Small Disadvantaged Business Directory.
- c) Source List of Directories Published by "The National Minority Supplier".
- d) U.S. department of Commerce, Office of Minority Business, Development Agencies Research and Information Division.
- e) An Inventory of the Capabilities of the Historically Black Colleges and Universities and other Minority Institutions.
- f) Small Disadvantaged Trade Associations.

**ENCLOSURE B**

PROCEDURES FOR THE PREPARATION AND APPROVAL OF CONTRACTOR  
REPORTS FOR LANGLEY RESEARCH CENTER

**GUIDELINES:** The following documents or subsequent editions in effect on date of contract shall serve as the basis for preparation of Contractor Reports:

NPG 2200.2A NASA Procedures and Guidelines  
(<http://www.sti.nasa.gov/neghome3.htm>)  
DoD 5220.22-M, National Industrial Security Program Operating Manual  
(NISPOM), January 1995

**FORMAT AND ORGANIZATION:** The format and organization of a Contractor Report should be consistent and follow the practices recommended in the NASA Procedures and Guidelines. For questions concerning format, contact Langley Research Information Management at (757) 864-2518. A Report Documentation Page (RDP) (Standard Form 298) shall be included as the last page in the report. The RDP is available electronically at (<http://www.sti.nasa.gov/neghome3.htm>). A sample of this form is attached.

**TRADEMARKS:** U.S. Government policy prohibits endorsing or criticizing commercial products in its publications. Use of trademarks is discouraged. If a trademark must be used, its owner must be credited and the trademark must be used as an adjective modifying the generic name.

**REFERENCES:** Material that is not obtainable or available must not be listed in the references. Documents of NASA contracts published as in-house documents must be referenced as NASA CR's, not as NASA Contract Numbers.

**SECURITY:** Security markings, when necessary, shall be consistent with DD Form 254, the directive issued by the Security Classification Officer, and shall conform to requirements established in the DoD NISPOM. For questions concerning security classification, contact LaRC Security Classification Officer at (757) 864-3420.

**APPROVAL COPIES.**

1. Upon completion of a report, the Contractor shall submit five (5) approval copies to the Contracting Officer's Technical Representative (COTR) for review and approval by NASA. These copies may be reproduced on both sides of sheet where feasible and assembled by an economical means by the Contractor. **Notify the Langley Contracting Officer when the approval copies are submitted.**
2. The Contractor will be notified of acceptance of the approval copy of the report by the COTR within thirty (30) days. Approval will be contingent upon changes required by NASA.

**APPROVAL COPIES.**

1. Upon completion of a report, the Contractor shall submit five (5) approval copies to the Contracting Officer for review and approval by NASA. These copies may be reproduced on both sides of sheet where feasible and assembled by an economical means by the Contractor.
2. The Contractor will be notified of acceptance of the approval copy of the report by the Contracting Officer within sixty (60) days. Approval will be contingent upon changes required by NASA. An original manuscript incorporating changes required by NASA shall be prepared and submitted by the Contractor with up to five (5) duplicate copies within thirty (30) days after receipt of acceptance.

**ORIGINAL MANUSCRIPT:** The original manuscript of a Contractor Report shall consist of a one-sided unbound master copy of the text with all artwork, captions, figures, tables, and graphs positioned on the pages. An 8-1/2" by 11" laser printed manuscript is preferred. Unscreened glossy prints of photographs shall be cut and mounted on the pages. The manuscript shall be single spaced. The page image area shall not exceed 7" by 9". Consecutive page numbers shall be added to the bottom center of every page. Suggestions for preparing acceptable copy are given in NASA SP-7047.

If the complete manuscript exists in electronic form, a 3.5" high-density, double-sided disk shall accompany the hard copy of the manuscript. The disk should contain the complete manuscript in one file which has been saved in PostScript format. The disk should be labeled with the author, title, and contract number. The electronic file may be submitted by file transfer protocol (FTP), especially if the file is too large to fit on a disk. Contact the Langley Technical Monitor for information on sending the electronic file by FTP.



<b>REPORT DOCUMENTATION PAGE</b>			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE May 1991	3. REPORT TYPE AND DATES COVERED Contractor Report		
4. TITLE AND SUBTITLE Science Needs for Real-Time Adaptable Data Products From the Earth Observing System		5. FUNDING NUMBERS C NAS1-18676 TA 6		
6. AUTHORS Paul D. Try, Paul F. Twitchell, and Christopher R. Redder				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Science and Technology Corporation 101 Research Drive Hampton, VA 23666-1340		8. PERFORMING ORGANIZATION REPORT NUMBER STC-42518		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) National Aeronautics and Space Administration Langley Research Center Hampton, VA 23681-0001		10. SPONSORING/MONITORING AGENCY REPORT NUMBER NASA CR		
11. SUPPLEMENTARY NOTES Langley Technical Monitor: David E. Bowker Final Report				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Unclassified-Unlimited Subject Category 43		12b. DISTRIBUTION CODE  <i>(If contract specifies restricted distribution, state restriction instead of Unclassified-Unlimited.)</i>		
13. ABSTRACT (Maximum 200 words)  Advancing the understanding of the Earth system requires improved knowledge of the time-variant governing processes, and the knowledge of these processes often comes only from real-time observations of the changing variables as seen from space. The unpredictability of what is to be measured and at what rate requires flexibility in the observational capability. The Earth Observing System (EOS) will be a major source of observational data during the next 10- to 25-year timeframe. Consequently, to ensure the needed advances in the understanding of the Earth system, real-time onboard processing is concluded to be a critical need for EOS.  <i>(Provide an unclassified abstract not to exceed 200 words)</i>				
14. SUBJECT TERMS Real-time data needs; Onboard data processing, Real-time processing for EOS; EOS communication needs		15. NUMBER OF PAGES 76		
		16. PRICE CODE		
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

## **EXHIBIT C - CONTRACT DOCUMENTATION REQUIREMENTS**

### **REPORTS OF WORK**

**A. Monthly Progress Reports--**The Contractor shall submit monthly technical reports for each task assignment describing progress to date, noting all technical areas in which efforts is being directed and indicating the status of work within these areas. Tasks may be summarized in one report unless otherwise stipulated in individual task assignments. Reports shall be in narrative form, brief and informal in content. These reports shall include:

1. A narrative statement of work accomplished during the report period
2. A statement of current and potential problem areas and proposed corrective action
3. A discussion of work to be performed during the next report period

The report required by Paragraph A above shall be submitted in the number of copies and to the addresses indicated in Paragraph D below entitled "Reports Distribution," within 13) days following the end of each calendar monthly report period.

### **B. Financial Management Reports--**

1. The Contractor shall submit monthly financial reports in accordance with the Section I clause of this contract entitled, "NASA Contractor Financial Management Reporting." This report shall be submitted utilizing NASA Form 533M, Monthly Contractor Financial Management Report, in accordance with submission instructions contained on the reverse side of the form. (Columns 8a and 8b, 533M, shall contain estimates for the following two successive months for the reporting a. and c. of paragraph 2 below.)

2. For this task assignment contract, a 533M shall be provided for the reporting levels identified below:

- a. Each Authorized Task
- b. All Unassigned Effort
- c. Contract Total (Includes the sums of Items a. and b. above) Column 9b shall reflect total hours and estimated cost.

d. Due not later than the 13th operating day following the close of the Contractor's accounting period being reported.

e. Each 533M shall include a narrative explanation for variances exceeding 25 percent between planned hours/dollars and actual hours/dollars for each reporting category (at the total contract level only).

3. In addition, cost detail associated with the following elements shall be included in each of the above, if applicable:

- a. Direct Productive Labor Hours
- b. Direct Productive Labor Dollars
- c. Overhead(s)
- d. G&A
- e. Subcontract
- f. Material
- g. Travel
- h. Computing

- i. ODC
- j. FCCOM
- k. Total Estimated Cost

C. Report of Government-Owned/Contractor Held Property (NASA Form 1018)—The Contractor shall submit the NASA Form 1018 no later than October 31 of each year in accordance with the Section G clause entitled "Financial Reporting of Government-owned/Contractor-held Property."

D. Subcontracting Reports—The Contractor shall submit Standard Form 294, Subcontracting Report for Individual Contracts and Standard Form 295, Summary Subcontractor Report, in accordance with the instructions on the reverse of the form. In addition to other instructions on the reverse of the SF 294, the Contractor is required to report awards to Women-Owned (W-O) business, Historically Black Colleges and Universities (HBCUs) and other Minority Educational Institutions (MEIs). This information shall be detailed in Block 18 as follows:

Subcontract awards to small W-O businesses this reporting period: \$

Subcontract awards to HBCUs and/or MEIs this reporting period: \$

The total subcontract dollars to W-O businesses, HBCUs, and MEIs shall be included in Blocks 15A and 16.

In addition to the instructions on the reverse of the SF 295, the Contractor is required to comply with Clause 18-52.219-75, Small and Small Disadvantaged Subcontracting Reporting.

E. Final Reports—Each task assignment may require the Contractor to submit a final report, either formal or informal, which documents and summarizes the results. When a formal final Contractor report is required, it shall be submitted in accordance with the instructions contained in Exhibit C, Procedures for the Preparation and Approval of Contractor Reports for Langley Research Center, Form PROC./P-72. The specified number of approval copies shall be submitted within the time specified in the task assignments.

F. Federal Contractor Veterans Employment Report—In compliance with Clause 52.222-37, Employment Reports on Special 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.

G. 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: \_\_\_\_\_, Mail Stop  
Contract NAS1-\_\_\_\_\_  
Hampton, VA 23681-0001

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 \_\_\_\_\_

C—New Technology Representative, Mail Stop 212

D—Patent Counsel, Mail Stop 212

E—Cost Accounting, Mail Stop 135 (via Mail Stop 175)

F—Property Administrator

G—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: (Only select required/needed reports.)

<u>DOCUMENT</u>	<u>LETTER CODE AND DISTRIBUTION</u>
Monthly Progress Report	A-1, B-2, C-1
Financial Management Report	A-1, B-2, E-2
New Technology or Patent Rights Report (pursuant to 18-52.227-70)	A-1, B-2, C-1, D-1
Oral Presentation Materials	A-1, B-1
Subcontracting Report for Individual Contracts (Standard Form 294)	A-1
Summary Subcontractor Report (Standard Form 295)	A-1, G-1
Federal Contractor Veterans Employment Report (VETS-100)	G-1
Final Report (Approval Copies)	A-5
Final Report (Approved)	As specified by the Contracting Officer
Other Documentation	As specified by the Contracting Officer

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 and a copy of each Financial Management Report to the delegated Administrative Contracting Officer of the cognizant DoD (or other agency) contract administrative services component.