

Weber → Salomonson

Earth Observing System (EOS)
Background Information Package (BIP)
Announcement Of Opportunity No. O SSA-1-88

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Addendum to

*with: Chris Wheeler
Earth Science Support Office
Suite 465
600 Maryland Ave, SW
Washington, D.C. 20024
She is sending
complete AO package
as of 4/20/90*

PART ONE:

**GUIDELINES FOR PROPOSAL
PREPARATION**

Applicable To All Investigations

1.0 INTRODUCTION

The guidelines for proposal preparation issued with the EOS AO are still applicable and in force. However, the guidelines must be updated to reflect changes in the EOS program as a result of the Phase-B study. This Addendum documents the required changes and must be used in preparing the execution phase proposals.

2.0 PROGRAM OVERVIEW

The EOS Program will consist of two-observatory series, of three observatories each, starting with the original two-observatory configuration in the AO. The first observatory series will be designated EOS-A, EOS-C and EOS-E. The second series will be designated EOS-B, EOS-D and EOS-F. The observatories will be launched on nominal 2 1/2 year centers with life times of 5 years (with expendables for 7 1/2 years). The observatories will be designed so as not to preclude servicing, but no servicing is currently planned. Each observatory series will contain the same or similar instrument sets. Therefore, each investigator must provide costs and development plans for THREE flyable units, plus sufficient spare parts to preclude interruptions in the development and test cycles.

3.0 SCHEDULES

The schedule for Instrument Investigation--Execution Phase (first observatory series) is shown in Figure 1, which replaces figure B-1, page B-5, in the original AO Background Information Package. The schedule is a planning schedule and represents the maximum allowable instrument development schedule commensurate with a December 1997 launch. The schedule should be used as a guide for developing individual instrument schedules.

3.1 MILESTONES FOR MAJOR DELIVERABLES

3.1.1 HARDWARE/SOFTWARE

- | | |
|--|-----------------------------|
| a. Protoflight Model | 4th qtr. CY95 |
| b. Ground Support Equipment | With protoflight |
| c. First Flight Model | No later than 4th qtr. CY97 |
| d. Second Flight Model | No later than 4th qtr. CY99 |
| e. Algorithms for Standard data products | See schedule in Sec. 6.0 |

4.0 GENERAL GUIDELINES AND REQUIREMENTS

Since the issuance of the EOS AO two project documents have been prepared that govern the execution phase instrument development. The contents, specifications and guidelines of these documents must be factored into the execution phase proposals. Deviations from either document must be approved by the EOS Project.

4.1 PERFORMANCE ASSURANCE REQUIREMENTS

The Performance Assurance Requirements (PAR) document, number GSFC-415-R-00004, dated November 30, 1989, governs all product assurance, safety, reliability, quality assurance, parts, materials, and testing for the EOS Program. The EOS PAR supercedes any and all guidelines of the AO BIP in these areas.

4.2 GENERAL INSTRUMENT INTERFACE SPECIFICATION

The General Instrument Interface Specification (GIIS) issued by the spacecraft contractor (dated 1/15/90) governs any and all interface and spacecraft requirements for the EOS instruments.

After the start of the execution phase, a Unique Instrument Interface Specification (UIIS) will be developed based upon the results of the Phase-B studies and interface meetings.

5.0 COSTING

The cost/price proposal detail requirements for instrument investigations are to be revised according to this Addendum, to reflect the launch date changes, the number of units and to differentiate the contents of the data system and analysis WBS cost element (#11, p. D-3).

5.1 WBS

The attached cost exhibits should be used in place of those issued with the EOS AO BIP.

The original WBS element #11 has been divided into three new elements, science, science computing facilities, and software development, containing the efforts listed below. Note also that the development effort covers launch plus 4 years and that each original cost exhibit now covers two pages. A new exhibit has been added to identify the cost of the second and third units.

5.1.1 SCIENCE

The Science WBS element is to include the initial algorithm development and all the activities involved in the interpretation and analysis of the data.

5.1.2 SCIENCE COMPUTING FACILITY--WBS Element #12

The Science Computing Facility WBS element is to include the computing facilities needed for data processing software development and data analysis.

5.1.3 DATA PROCESSING SOFTWARE DEVELOPMENT--WBS Element #12

The Data Processing Software Development WBS element is to include all of the efforts related to the development and maintenance of the data processing programs needed to create the Level-1, -2, -3 or -4 data products sets.

6.0 SOFTWARE REVIEWS

Within the data processing software development effort, provision must be made for review of the Team Leader and P.I. data processing deliverables. These reviews and deliverables should be factored into the C/D proposal effort and tailored to the size of the software development task.

PROPOSED TL & PI DATA PROCESSING REVIEWS & SOFTWARE DELIVERABLES

	<u>REVIEWS</u>		<u>DELIVERABLES</u>
10/91	CONCEPT DESIGN REVIEW	1/95	USERS GUIDE FOR V1 SOFTWARE
10/92	PRELIMINARY DESIGN REVIEW	4/95	TEST DATA & V1 SOFTWARE
10/93	DETAILED DESIGN REVIEW	1/96	USERS GUIDE FOR V2 SOFTWARE
10/94	STATUS REVIEW	4/96	TEST DATA AND V2 SOFTWARE
10/95	STATUS REVIEW	1/97	USERS GUIDE FOR V3 SOFTWARE
10/96	STATUS REVIEW	4/97	TEST DATA AND V3 SOFTWARE
		6/98	VALIDATED SOFTWARE

NOTE: V1 = VERSION 1--COMPLETE BUT PROTOTYPE
V2 = VERSION 2--COMPLETE, ALGORITHM NOT FINAL
V3 = VERSION 3--FLIGHT READY

7.0 CATASTROPHIC FAILURE

There is an EOS Program requirement to recover from a launch failure within 3 years. Therefore, each instrument program must contain enough spare subsystems to meet this requirement.

8.0 FLIGHT SOFTWARE

Instrument flight software will undergo a series of reviews commensurate with the EOS Software Requirements Document and the instrument development schedule.

EOS ELEMENTS OF COST BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --EXECUTION PHASE--

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)

TOTAL PROGRAM
 WBS LEVEL II SUMMARY

<u>COST ELEMENTS WBS</u>	FY91	FY92	FY93	FY94	FY95	FY96
1.0 PROGRAM MANAGEMENT						
2.0 SYSTEM ENGINEERING						
3.0 FLIGHT HARDWARE						
4.0 GROUND EQUIPMENT						
5.0 FLIGHT & GROUND SOFTWARE						
6.0 PERFORMANCE ASSUR & SAFETY						
7.0 INSTRUMENT ASSEMBLY & VERIF						
8.0 CALIBRATION						
9.0 INTEGRATION & TEST						
10.0 FLIGHT OPERATION SUPPORT						
11.0 SCIENCE						
12.0 SCIENCE COMPUTING FACILITIES						
13.0 DATA PROCESS S/W DEVELOPMENT						
TOTAL PRICE (FY90 DOLLARS)						
TOTAL PRICE (REAL YR \$)						

EOS ELEMENTS OF COST BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --EXECUTION PHASE--

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)

TOTAL PROGRAM
 WBS LEVEL II SUMMARY

<u>COST ELEMENTS WBS</u>	FY97	FY98	FY99	FY00	FY01	TOTAL
1.0 PROGRAM MANAGEMENT						
2.0 SYSTEM ENGINEERING						
3.0 FLIGHT HARDWARE						
4.0 GROUND EQUIPMENT						
5.0 FLIGHT & GROUND SOFTWARE						
6.0 PERFORMANCE ASSUR & SAFETY						
7.0 INSTRUMENT ASSEMBLY & VERIF						
8.0 CALIBRATION						
9.0 INTEGRATION & TEST						
10.0 FLIGHT OPERATION SUPPORT						
11.0 SCIENCE						
12.0 SCIENCE COMPUTING FACILITIES						
13.0 DATA PROCESS S/W DEVELOPMENT						
TOTAL PRICE (FY90 DOLLARS)						
TOTAL PRICE (REAL YR \$)						

EOS ELEMENTS OF LABOR BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --EXECUTION PHASE--

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)

TOTAL PROGRAM
 WBS LEVEL II SUMMARY

<u>LABOR ELEMENTS WBS</u>	FY91	FY92	FY93	FY94	FY95	FY96
? 1.0 PROGRAM MANAGEMENT						
X 2.0 SYSTEM ENGINEERING						
X 3.0 FLIGHT HARDWARE						
Science 4.0 GROUND EQUIPMENT						
4.0 FLIGHT & GROUND SOFTWARE						
6.0 PERFORMANCE ASSUR & SAFETY						
7.0 INSTRUMENT ASSEMBLY & VERIF						
8.0 CALIBRATION						
9.0 INTEGRATION & TEST						
10.0 FLIGHT OPERATION SUPPORT						
11.0 SCIENCE						
12.0 SCIENCE COMPUTING FACILITIES						
13.0 DATA PROCESS S/W DEVELOPMENT						

TOTAL LABOR

EOS ELEMENTS OF LABOR BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --EXECUTION PHASE--

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)

TOTAL PROGRAM
 WBS LEVEL II SUMMARY

<u>LABOR ELEMENTS WBS</u>	FY97	FY98	FY99	FY00	FY01	TOTAL
1.0 PROGRAM MANAGEMENT						
2.0 SYSTEM ENGINEERING						
3.0 FLIGHT HARDWARE						
4.0 GROUND EQUIPMENT						
5.0 FLIGHT & GROUND SOFTWARE						
6.0 PERFORMANCE ASSUR & SAFETY						
7.0 INSTRUMENT ASSEMBLY & VERIF						
8.0 CALIBRATION						
9.0 INTEGRATION & TEST						
10.0 FLIGHT OPERATION SUPPORT						
11.0 SCIENCE						
12.0 SCIENCE COMPUTING FACILITIES						
13.0 DATA PROCESS S/W DEVELOPMENT						

TOTAL LABOR

EOS ELEMENTS OF COST & LABOR BY FISCAL YEAR

INSTRUMENT INVESTIGATOR

--EXECUTION PHASE--

WBS LEVEL III

PROPOSAL NO. _____
(FOR NASA USE)

ELEMENT WBS _____ FY91 FY92 FY93 FY94 FY95 FY96

COST ELEMENT

LABOR HOURS

MANAGEMENT
ENGINEERING
MANUFACTURE
OTHER

TOTAL HOURS

LABOR DOLLARS

MANAGEMENT
ENGINEERING
MANUFACTURE
OTHER

TOTAL DOLLARS

OVERHEAD COSTS
MATERIAL
SUBCONTRACT
TRAVEL
OTHER-DIRECT COST

SUB-TOTAL

G & A

TOTAL COST

COST OF MONEY
FEE OR PROFIT

TOTAL PRICE (FY90 DOLLARS)
TOTAL PRICE (REAL YR \$)

EOS ELEMENTS OF COST & LABOR BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --EXECUTION PHASE--
 WBS LEVEL III

PROPOSAL NO. _____
 (FOR NASA USE)

ELEMENT WBS _____ FY97 FY98 FY99 FY00 FY01 TOTAL

COST ELEMENT

LABOR HOURS

MANAGEMENT
 ENGINEERING
 MANUFACTURE
 OTHER

TOTAL HOURS

LABOR DOLLARS

MANAGEMENT
 ENGINEERING
 MANUFACTURE
 OTHER

TOTAL DOLLARS

OVERHEAD COSTS
 MATERIAL
 SUBCONTRACT
 TRAVEL
 OTHER-DIRECT COST

SUB-TOTAL

G & A

TOTAL COST

COST OF MONEY
 FEE OR PROFIT

TOTAL PRICE (FY90 DOLLARS)
 TOTAL PRICE (REAL YR \$)

RATE SUMMARY
INSTRUMENT INVESTIGATOR

PROPOSER'S NAME _____
PROPOSER'S INSTITUTION _____
SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
(FOR NASA USE)
PERIOD ENDING: _____

FY91 FY92 FY93 FY94 FY95 FY96

LABOR ESCALATION

SKILL CODE:
 SENIOR ENGR.
 ENGINEER
 JR. ENGINEER
 TECHNICIAN
 DRAFTSMAN
 ETC.

OVERHEAD RATES:
 ENGINEERING
 MANUFACTURING
 FIELD
 OTHER-SPECIFY

MATERIAL BURDEN
SUBCONTRACTOR BURDEN
OTHER FACTORS APPLIED
TO LABOR
COST OF MONEY FOR
FACILITY CAPITAL
(CAS 414):
 ENGINEERING
 MANUFACTURING
 FIELD
 OTHER - SPECIFY
 G & A

G & A
 R & D
 B & P
 G & A

TOTAL G & A

RATE SUMMARY
INSTRUMENT INVESTIGATOR

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)
 PERIOD ENDING: _____

	FY97	FY98	FY99	FY00	FY01	TOTAL
<u>LABOR ESCALATION</u>						
SKILL CODE:						
SENIOR ENGR.						
ENGINEER						
JR. ENGINEER						
TECHNICIAN						
DRAFTSMAN						
ETC.						
OVERHEAD RATES:						
ENGINEERING						
MANUFACTURING						
FIELD						
OTHER-SPECIFY						
MATERIAL BURDEN						
SUBCONTRACTOR BURDEN						
OTHER FACTORS APPLIED TO LABOR						
COST OF MONEY FOR FACILITY CAPITAL (CAS 414):						
ENGINEERING						
MANUFACTURING						
FIELD						
OTHER - SPECIFY						
G & A						
G & A						
R & D						
B & P						
G & A						
TOTAL G & A						

EOS ELEMENTS OF COST BY FISCAL YEAR
 INSTRUMENT INVESTIGATOR
 --- EXECUTIVE PHASE ---

PROPOSER'S NAME _____
 PROPOSER'S INSTITUTION _____
 SHORT TITLE OF PROPOSAL _____

PROPOSAL NO. _____
 (FOR NASA USE)

<u>COST ELEMENT</u>	FY91	FY92	FY93	FY94	FY95	FY96
FLIGHT MODEL #1						
FLIGHT MODEL #2						

<u>COST ELEMENT</u>	FY97	FY98	FY99	FY00	FY01	TOTAL
FLIGHT MODEL #1						
FLIGHT MODEL #2						