

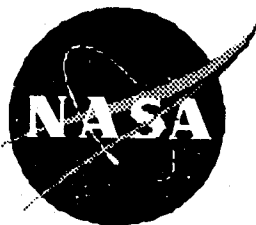
IG-97-008

**AUDIT
REPORT**

**ARC SUPPORT OF SETI'S HIGH
RESOLUTION MICROWAVE
SURVEY PROGRAM**

AMES RESEARCH CENTER

November 14, 1996



National Aeronautics and
Space Administration

OFFICE OF INSPECTOR GENERAL



Reply to Action

W

November 14, 1996

TO: B/Chief Financial Officer
D/Center Director, Ames Research Center

FROM: W/Assistant Inspector General for Auditing

SUBJECT: Final Rapid Action Report on ARC's Support of the SETI Institute
Ames Research Center, Assignment No. A-AR-96-002
Report No. IG-97-008

An OIG audit of ARC's Support of the SETI Institute has identified matters requiring immediate management attention and/or action by the Center. The enclosed rapid action report is intended to provide early advice on these matters. Six additional copies of the report have been forwarded to the ARC/OIG Audit Liaison Representative for further distribution at the center.

The OIG's audit work to date indicates that ARC continued to support the SETI Institute's High Resolution Microwave Survey (HRMS) project after Congress terminated funding of the project effective October 1, 1993. In March 1995, ARC used SBIR funds to purchase almost \$0.6 million of HRMS equipment, with the intent of loaning the equipment (a data recorder) to the SETI Institute. Although the Center maintained that its support of research on the data recorder was based on its "commercial uses," ARC still had not identified a commercial user for the equipment as of September 18, 1996.

Additionally, the Center needed to close a \$0.5 million contract awarded in November 1988, to acquire a signal detector for use in the HRMS project. ARC deobligated the contract's remaining balance on September 26, 1995, but did not close the contract until September 17, 1996.

The OIG issued a draft rapid action report to ARC management and to Code B, NASA Headquarters on October 10, 1996. We incorporated into the report managements' responses to the report's four recommendation. If you have any questions regarding this report, please call me at 202-358-1232.

James L. Nugent
for
Debra A. Guentzel

Enclosure

cc:
OIG Liaison Representative, ARC (w/6 encl.)

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ARC SUPPORT OF SETI'S HIGH RESOLUTION MICROWAVE SURVEY PROGRAM

AMES RESEARCH CENTER, CALIFORNIA

INTRODUCTION

The NASA Office of Inspector General is conducting a survey of NASA Ames Research Center's (ARC) continued relationship with the High Resolution Microwave Survey (HRMS) project. The project had been conducted by NASA and the Search for Extraterrestrial Intelligence (SETI) Institute prior to October 1, 1993, and since then by the Institute. The purpose of the survey is to determine whether ARC complied with the congressional mandate to terminate NASA funding of the project, and with applicable property controls. During our survey, we identified certain conditions that warrant management's immediate attention. We have issued this rapid action report due to the significance and time sensitivity of these conditions.

In the early 1970s, ARC began to consider the technology required for an effective search for extraterrestrial intelligence. By the late 1970s, SETI programs had been established at ARC and the Jet Propulsion Laboratory (JPL). Using large microwave radio telescopes, ARC would examine 1,000 Sun-like stars in a targeted search and JPL would sweep all directions in a sky survey.

The SETI Institute was founded in 1984 as a nonprofit corporation for scientific and educational projects concerning the nature, distribution, and prevalence of life in the universe. The Institute conducts and/or encourages research and related activities in all science and technology aspects of astronomy and the planetary sciences, chemical evolution, the origin of life, biological evolution, and cultural evolution.

NASA began funding the SETI Institute's HRMS project in 1985 (then called the Microwave Observing Program), under NASA cooperative agreement NCC 2-336. In Fiscal Year 1993, NASA funding of the HRMS project totaled about \$12 million.

In September 1993, in a Senate floor debate on NASA's Fiscal Year 1994 Appropriations Act, Senator Richard H. Bryan - Nevada, cited other funding priorities as his reason for wanting to terminate the Microwave Observing Program, and expressed concern that the program had continued after it was eliminated from the authorizing legislation. Senator Bryan served on the Senate Commerce Committee, which was the authorizing committee for the program. He highlighted the program's legislative history as follows:

" . . . last year, fiscal year 1993, the program [i.e., the Microwave Observing Program] was eliminated in the authorizing legislation. This program had been known for many, many years as the Search for Extraterrestrial Intelligence, . . . After this legislation was enacted, NASA failed to carry out the mandate of the Congress in eliminating the program, but rather changed the characterization --, that is, the name -- of the program. So no longer do we have a search for extraterrestrial intelligence. Now we have a new program whose function is identical in all respects to the program that we have been seeking to eliminate. It is called the high resolution microwave survey." (September 20, 1993.)

On September 22, 1993, Senator Bryan submitted Amendment No. 911 to NASA's appropriations bill for Fiscal Year 1994, to prohibit the use of funds for the HRMS project. Effective October 1, 1993, Congress withdrew its support of the HRMS project.

The Appropriations Act, Public Law 103-124, dated October 28, 1993, stated *"Provided, That not to exceed \$1,000,000 under this Act shall be available for the Towards Other Planetary Systems/High Resolution Microwave Survey Program (also known as the Search for Extraterrestrial Intelligence Project)."* The conference report explained the purpose of the funds as follows:

"Finally, the conferees have agreed to include a provision proposed by the Senate and modified to limit to \$1,000,000 any funds made available under this act for the Towards Other Planetary Systems/High Resolution Microwave Survey Program (also known as the Search for Extraterrestrial Intelligence Project). The \$1,000,000 included for this activity is available only for termination costs."

OBJECTIVES, SCOPE, AND METHODOLOGY

OBJECTIVES

The objectives of the survey are to determine whether NASA:

- Terminated funding for the HRMS project as mandated by Congress on October 1, 1993; and
- Properly transferred/loaned equipment to the SETI Institute.

SCOPE AND METHODOLOGY

In addressing our objectives, we interviewed ARC and SETI Institute officials; examined ARC's funding and expenditure records; examined transactions concerning the purchase, maintenance, transfer/loan of equipment; and reviewed other relevant documents. Our audit work to date has primarily focused on the first objective and is continuing on both objectives.

MANAGEMENT CONTROLS REVIEWED

We reviewed management controls to the extent needed to satisfy the survey objectives, including controls over:

- Funding and administration of cooperative agreement NCC 2-336.
- Equipment loaned to the SETI Institute.
- Use of Intergovernmental Personnel Act (IPA) agreements.
- Award of Small Business Innovation Research (SBIR) contracts to acquire HRMS equipment.

AUDIT FIELD WORK

Audit field work began in January 1996 and is continuing. Field work is being performed at ARC and the SETI Institute. The audit is being performed according to generally accepted government auditing standards, and includes such examinations and tests of applicable records and documents as are considered necessary in the circumstances.

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OBSERVATIONS AND RECOMMENDATIONS

INTERIM RESULTS OF AUDIT

ARC has continued to support the SETI Institute's High Resolution Microwave Survey (HRMS) project, despite actions taken by Congress to terminate it. Audit work to date indicates that ARC awarded a \$0.6 million contract (NAS 2-14245) to purchase equipment for the HRMS project, after Congress terminated NASA funding of the project effective October 1, 1993. The contractor was expected to deliver the equipment to ARC in September 1996. The audit also disclosed a contract (NAS 2-12936) to purchase HRMS equipment, awarded before Congressional termination, that ARC continued to fund for work performed after termination. As of August 26, 1996, ARC still had not issued a change order to close the contract.

TAKE ACTION ON DATA RECORDER CONTRACT

Contract NAS 2-14245 (HRMS data recorder) -- ARC planned to lend to the SETI Institute almost \$0.6 million of HRMS equipment that ARC purchased after Congress terminated NASA funding of the project. After the OIG expressed its concerns to the Center on this matter, an ARC official advised that ARC had changed its position and would either modify the data recorder for use with other NASA equipment, or make the recorder available to other government agencies. If the equipment is loaned to the Institute, NASA will use \$0.6 million of funds for a purpose not intended by the Congress. Details follow.

Report to Congress on HRMS Funding Activities

On January 5, 1994, ARC awarded an SBIR Phase I contract (NAS 2-13974) for \$69,957, to determine the feasibility of adapting a data recorder for the HRMS project. Fiscal Year 1993-94 funds were used to fund the contract. According to the Phase I Final Report, "the fundamental goal of this SBIR project [Phase I] is to find a way to use the VLBA [Very Long Baseline Array] Recorder for recording and playing back SETI data." (Emphasis added)

On March 24, 1995, ARC purchased HRMS equipment under a follow-on SBIR Phase II contract valued at \$599,101. Fiscal Year 1995-96 funds were used to fund the contract. The Phase II contract was for the purchase of one Very Long Baseline Array (VLBA) data recorder consisting of a Modified DR 101-A high density tape

recorder and a high performance parallel interface (HIPPI) Test Set. According to the SBIR Phase II proposal,

" . . . Phase I work was carried out for the purpose of showing how SETI data may be recorded However, the HIPPI interface makes the system completely general and the recorder may be used for any data source for which the total required recording rate does not exceed the maximum for the configuration chosen."

The former NASA Contracting Officer's Technical Representative (COTR) for this contract stated that the funds used to purchase the recorder were not subject to Congress' decision to terminate NASA funding.* He cited two reasons: (1) The SBIR funds used to purchase the equipment were not tied to the SETI program and were not part of the \$1 million provided by Congress for project termination; and (2) the data recorder could be used in non-SETI applications. Notwithstanding the former COTR's rationale, we believe the Phase I and II contracts were clearly intended to further NASA's support of the HRMS project. NASA's intentions were evidenced by the many references to HRMS or SETI throughout the Phase I and II proposals, and by the names of officials associated with the HRMS project who signed various documents related to the proposals.

In our opinion, ARC's award of the Phase I and II contracts circumvented Congress' intent to limit funding of HRMS activities to termination costs only. Therefore, NASA should notify Congress that it used SBIR funds to support the HRMS project after Congress terminated NASA funding of the project.

***Provide Data Recorder
to an Authorized User***

The data recorder was expected to arrive at ARC in September 1996. According to the current COTR for this contract, the COTR planned to transfer the data recorder under a loan to the SETI Institute's HRMS project where it would have been used to help search for extraterrestrial radio transmissions.

* The former COTR is now the Institute's Senior Scientist and Manager of Project Phoenix, formerly called the HRMS project.

ARC should not loan this equipment to the SETI Institute without Congressional approval to release it. If such approval is not forthcoming, then ARC should find another use for the equipment within NASA, or properly dispose of the equipment.

***TERMINATE SIGNAL
DETECTOR CONTRACT***

Contract NAS 2-12936 (SETI signal detector) -- ARC needs to close contract NAS 2-12936 to avoid incurring possible additional contract costs and, in turn, using funds that Congress intended for other purposes. Specifically, the results of our survey showed that ARC awarded this \$500,000 SBIR Phase II contract on November 18, 1988, to acquire a "SETI Signal Detector Prototype System 86-1," for use in the HRMS project.

ARC continued to spend money on this contract through March 1994, for additional contractor work performed on the equipment after October 1, 1993. (The amount expended after October 1, 1993, totaled \$45,000; funds for this contract were obligated in Fiscal Year 1990.) ARC has made no contract payments since March 1994. The contract has remained open almost 6 years beyond the original completion date (November 17, 1990), and almost 3 years after Congress terminated NASA's support of the HRMS project. Progress payments totaled \$230,000. ARC deobligated the remaining \$270,000 on September 26, 1995. Almost one year later, ARC still had not issued a change order to close the contract.

The former COTR for this contract advised the OIG that ARC was justified in continuing to fund the contract after October 1, 1993, because SBIR funds were not tied to the HRMS project. We believe ARC circumvented Congressional intent by using SBIR funds as a means to continue supporting the HRMS project.

As of August 6, 1996, the Center anticipated issuing a change order that would close the contract. Because the contract is still open, the Center should expedite the contract closeout process.

RECOMMENDATION 1

The NASA Chief Financial Officer/Comptroller, Code B, should report to Congress that NASA used SBIR funds to support the HRMS project after Congress terminated funding of the project.

***Management's (Code B)
Response***

Although the recommendation was specifically directed to Headquarters' Code B, both Code B and ARC management responded. The Chief Financial Officer, Code B, deferred to ARC's

response, stating "*Should the Ames response to this draft report be unconvincing to you, we would have no objection to disclosing your findings to the Congress.*"

ARC maintained that at the time it recommended awarding the SBIR Phase I contract, ARC had not been directed to terminate spending on the HRMS program. ARC further maintained that although the related proposal was written in terms of its specific application to the HRMS program, the VLBA equipment had a broader application, as well as commercialization potential. When ARC received notice to terminate HRMS support, ARC said it again reviewed the proposal and decided to continue with the award based on the potentially wider application of the work within NASA and on its high commercialization potential.

The full text of the Code B and ARC responses is included as Appendices A and B to the report.

***Evaluation of
Management's Responses***

Headquarters' Code B and ARC management have not adequately supported their response to Recommendation 1. Our reasons follow:

1. The proposal stated that Phases I & II of the proposed SBIR contracts were to:

" . . . formulate a plan for using the Very Long Baseline (VLBA) tape recorder for recording High Resolution Microwave Survey data (HRMS)."

" . . . find a way to use the VLBA Recorder for recording and playing back SETI data."

" . . . make the signal and control interfaces sufficiently general so that the upgraded VLBA Recorder may be used in a variety of applications. This is to be done both for NASA and with the objective of finding commercial uses."

ARC continued to support a research effort that Congress had specifically terminated. It now maintains that it justifiably supported research on the data recorder based on the "commercial uses" (Goal 3) that it expected to find for the recorder. Notwithstanding ARC's position, Goals 1 and 2

directly supported the HRMS program and, according to the Phase II proposal, Goal 2 represented the "fundamental goal" of the contract.

Agencies can use SBIR contracts only to support authorized "technical topics." Because Congress had previously terminated the HRMS program, the HRMS program could no longer be considered an authorized technical topic. Accordingly, ARC awarded contract NAS2-14245 for an unauthorized purpose (i.e., "to modify a VLBA recorder for use in HRMS recording").

Goal 3 is common to any SBIR contract and was of secondary importance. In this regard, if the quest for commercial uses of NASA-funded new technology were the sole reason for SBIRs, then NASA could embark on virtually any research endeavor it pleased, without consideration to whether the research supported an authorized NASA program. Clearly, SBIRs confer no such "blanket" authority on the sponsoring agency.

2. ARC had ample time to eliminate the frequent and specific references to HRMS-oriented goals in the Phase I and II proposals and contracts. ARC made no such revisions. Specifically, ARC made no substantive changes to the Phase I proposal during the 3-month period from October 1, 1993, to January 5, 1994 (date of the Phase I contract). Also, ARC made no substantive changes to the Phase II proposal during the 9-month period from July 1, 1994, to March 24, 1995 (date of the Phase II contract). ARC did not even change the title of the Phase II proposal or contract, which remained: "Use of the VLBA Recorder for HRMS Recording." The absence of substantive revisions to the HRMS-orientation of these proposals and contracts strongly suggests that ARC intended to continue supporting the HRMS program after Congress had terminated it. Finally, ARC's statement that it continued to fund the proposals only because of their non-HRMS applications, is not supported by the documentation that ARC presented to the OIG.

3. The Phase II contract made no mention of other possible users. In fact, ARC had not identified other potential users of the data recorder equipment until after the OIG advised ARC of its concerns regarding the intended recipient, the SETI Institute. Specifically, on May 15, 1996, the COTR for contract NAS 2-14245 advised the OIG that he planned to have the data recorder delivered to the SETI Institute because it was the most likely user of the equipment. We then advised the COTR of our concerns regarding the propriety of his plan. As of about September 18, 1996, when we requested a meeting with ARC officials on this subject, ARC still had not identified another user for the equipment. On September 25, 1996, the date of our audit exit conference, ARC officials indicated they would probably have the data recorder shipped to the National Radio Astronomy Observatory in New Mexico.

ARC's actions after October 1, 1993, have shown a pattern of continued support to the HRMS program. Accordingly, we believe ARC circumvented Congressional intent and improperly expended additional hundreds of thousands of dollars.

Code B has stated its willingness to disclose the OIG's findings to the Congress. Code B's notification to Congress will satisfy the intent of the recommendation.

RECOMMENDATION 2

If NASA wants to provide equipment purchased under contract NAS 2-14245 to the SETI Institute, then the NASA Chief Financial Officer/Comptroller, Code B, should obtain approval from Congress to do so.

Management's (Code B) Response

Concur. Code B stated *"The Center concurs with this recommendation. However, ARC has not provided, and does not intend to provide, any hardware developed under this SBIR contract to the SETI Institute, or to any other company, for use on the HRMS project."*

Evaluation of Management's Response

The Center's response satisfies the intent of the recommendation.

RECOMMENDATION 3 If Congressional approval is not obtained regarding contract NAS 2-14245, then ARC should initiate actions to find another use for the equipment within the agency, or properly dispose of the equipment.

Management's (ARC) Response Concur. ARC stated *"It was the stated intent in the Phase II proposal to identify non-HRMS users during the Phase II contract. The National Radio Astronomy Observatory (NRAO) in Socorro, New Mexico, has been identified as such a user. Negotiations are presently underway to conduct the test program there."*

Evaluation of Management's Response The Center's response satisfies the intent of the recommendation.

RECOMMENDATION 4 ARC should direct the contractor to cease work on contract NAS 2-12936, and expedite the termination process for this contract.

Management's (ARC) Response Concur. ARC stated *"The contract was closed on September 17, 1996 (see Enclosure). We request that your final report reflect the closure."*

Evaluation of Management's Response The Center's response satisfies the intent of the recommendation. The OIG acknowledges the closure of contract NAS 2-12936.

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GENERAL COMMENTS

We appreciate the courtesy, assistance, and cooperation extended to us by NASA and contractor officials contacted during this survey.

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NOV 4 1996

Reply to Attn of

B

TO: W/Assistant Inspector General for Auditing
FROM: B/Chief Financial Officer
SUBJECT: Draft Rapid Action Report on ARC's Support of the SETI Institute,
Ames Research Center, Assignment No. A-AR-96-002

We have reviewed the subject draft rapid action report and our comments on
Recommendations 1 and 2 are as follows:

Recommendation No. 1:

The NASA Chief Financial Officer, Code B, should report to Congress that NASA
used Small Business Innovation Research (SBIR) Funds to support the High
Resolution Microwave Survey (HRMS) project after Congress terminated funding
of the project.

The Center does **not concur** with this recommendation. The Center maintains
that no SBIR funds were spent specifically in support of the HRMS project, only
after October 1, 1993, the Congressional mandated termination date.

The purpose of the NASA SBIR Program is to seek "innovative concepts in SBIR
that meet NASA mission needs and have potential for commercial applications."
Thus, the SBIR program has two purposes, both of which have been approved
by Congress. Given the wide potential application of the technology proposed in
the HRMS related SBIR's (both within NASA and for commercialization), it was
decided to continue with the award of the SBIR contracts. It was also decided to
redirect the contracted efforts toward non-HRMS uses, which was done.

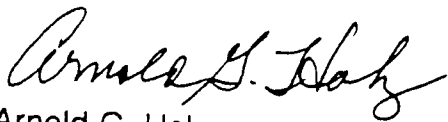
Should the Ames response to this draft report be unconvincing to you, we would
have no objection to disclosing your findings to the Congress.

Recommendation No. 2:

If NASA wants to provide equipment purchased under Contract NAS2-14245 to the SETI Institute, then the NASA Chief Financial Officer, Code B, should obtain approval from Congress to do so.

The Center **concur**s with this recommendation. However, ARC has not provided, and does not intend to provide, any hardware developed under the SBIR contract to the SETI Institute, or to any other company, for use on the HRMS project.

Should you have any questions regarding our response, please contact Ralph H. Robinson, Chief Financial Officer, ARC, at (415) 604-5068.



Arnold G. Holz

the commercialization potential. The notice to terminate HRMS was received before the actual award was made. After that notice, we reviewed the recommendation again. We decided that due to the potentially wide application of the work within NASA and the high commercialization potential, we would continue with the award.

SBIR Phase I contracts are short term activities; 6 months to do the work, write the Final Report, and submit the Phase II Proposal. Therefore, companies rely heavily on databases that they have readily at hand. The SBIR Phase I Final Report by Interferometrics for "Use of the VLBA Recorder for HRMS Data Recording" does state, as noted by the OIG, that "*the fundamental goal of the SBIR project is to find a way to use the VLBA Recorder for recording and playing back SETI data.*" The Final Report goes on to state, "*An equally important goal is to make the signal and control interfaces sufficiently general so that the upgraded VLBA Recorder may be used in a variety of applications. This is to be done both for NASA and with the objective of finding commercial uses.*"

The purpose of the NASA SBIR Program is to seek "innovative concepts in SBIR that meet NASA mission needs and have potential for commercial applications." Thus, the SBIR program has two purposes, both of which have been approved by Congress. Given the wide potential application of this technology as discussed in the Phase II Proposal (real-time spacecraft or wind tunnel data, as well as other large recording capacity users, i.e., EOS data streams, and non-NASA archival storage for movie industry, computer networks, super computer peripherals, etc.), it was decided to continue with the award of the Phase II contract to develop a prototype unit.

As also stated in the Phase II Proposal, the contractor intended to identify an appropriate testbed during the contract: "*We anticipate identifying a system within NASA or some other organization which meets those requirements and arranging for a field test.*" The National Radio Astronomy Observatory (NRAO) in Socorro, New Mexico, has been identified as this potential test-bed and negotiations are presently underway with them. No delivery of any hardware, developed under this SBIR contract, has been or will be made to the SETI Institute, or any other company, in support of the HRMS project at NASA's expense.

Contract NAS2-12936 (SETI signal detector): SBIR Phase II contract NAS2-12936 was awarded to Silicon Engines on November 18, 1988, to develop both analytical simulations of and a hardware prototype of a signal detector that would meet the needs of the SETI Program, as well as being applicable to other activities which require the detection and the identification of a low level signal against a noisy background (e.g., planetary detection, tape processing, etc.).

This award was made well before the termination of the HRMS project. Under normal conditions, hardware delivery would have been made in about two years. However, Silicon Engines had a great deal of difficulty bringing this work to fruition and requested several no cost extensions to continue the work. The ARC COTR developed a series of milestones for them to complete in order to continue the contract. Late in 1993, they apparently, reported to the COTR that they would be able

to complete the milestones associated with the simulation development, but would not be able to do the hardware prototype development. That simulation work was completed in March 1994, demonstrated to the COTR, and payment was made for the simulation effort. No deliveries were made to the SETI Institute for use in the HRMS project nor was any further work approved.

Over the past 2 years there have been three different COTRs for this contract. The contract was not deobligated in a more timely fashion because of extreme administrative workload and unusual staff turnover. However, no funds have been expended on this contract since March 1994.

RECOMMENDATION 3: CONCUR

If Congressional approval is not obtained regarding contract NAS2-14245, then ARC should initiate actions to find another use for the equipment within the agency, or properly dispose of the equipment.

It was the stated intent in the Phase II proposal to identify non-HRMS users during the Phase II contract. The National Radio Astronomy Observatory (NRAO) at Socorro, New Mexico, has been identified as such a user. Negotiations are presently underway to conduct the test program there.

RECOMMENDATION 4: CONCUR

ARC should direct the contractor to cease work on contract NAS2-12936, and expedite the termination process for this contract.

The contract was closed on September 17, 1996 (see Enclosure). We request that your final report reflect the closure.

Should you have questions regarding our response, please contact Wanda Riney at (415) 604-6628.


Jana M. Coleman

Enclosure

cc:

W:204-11/D. L. Gandrud

RECEIVAL AND INSPECTION REPORT

CONTRACTOR Silicon Engines, Inc.			ORDER NO. NAS2-12936	
REC'D FROM			PKG. LIST NO.	SHIPPER'S WT
FRT. BILL NO.	GOVT. B/L NO.	VIA	NO. OF PIECES	ACTUAL WT.

ITEM	QUANTITY	DESCRIPTION
------	----------	-------------

Description of Procurement:

SETI Signal Detector, SBIR Phase II

1. Please sign the certification below, indicating that the subject contract/order is complete:

CERTIFICATION

All work required ^{by the Gov't} under the subject contract/order has been completed, delivered, and accepted. *Contractor did not complete originally contracted info.*

TECHNICAL MONITOR'S SIGNATURE

2. In addition, has all Government Furnished Property not accountable under the subject contract/order (if applicable), been returned to the Government, or been accounted for:

YES _____ NO _____ N/A X

Where NO is checked, please explain.

ORDER IS COMPLETE SHORT OVER DAMAGED

I certify that the supplies and/or services listed in this receipt and inspection report have been received and conform to contract requirements.

See above
Date Received 9/13/96

Date Signed 9/13/96

[Signature]
Signature of Authorized Government Representative
[Signature]
Title

PLEASE PRESS FIRMLY - ALL COPIES MUST BE LEGIBLE.

White - Acquisition 241-1 Yellow - Shipping & Receiving 255-3 Pink - Preparing Office
Goldenrod - Financial Mgmt. 203-18 Green - Equipment Mgmt. 255-2

Silicon Engines Inc.

Invoice Number:
94012

950 North California Ave., Suite 201
Palo Alto, CA 94303

Tel: 415-424-0480
Fax: 415-424-0480

APR 06 1994

409601

TO:
NASA-Ames Research Center
Financial Analysis & Payments
N203-18
Moffet Field, CA 94035

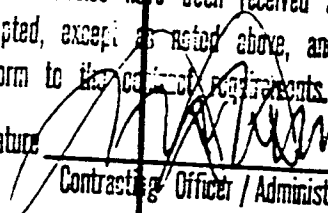
REMIT TO:
Silicon Engines, Inc.
950 North California Ave., Suite 201
Palo Alto, CA 94303

9409437355

Date:
14 Mar 94

Terms:
Net 30

Contact:
Jerome Duluk

Item	Description	Project	Amount	Totals
1	CAM IC Verilog Simulation Complete, Paragraph G.1, Item 13	SETI Signal Detector NAS2-12936	\$15,000.00	
<p>I certify that the supplies / services listed on this invoice have been received and accepted, except as noted above, and conform to the contract requirements.</p> <p>Signature:  Contracting Officer / Administrator</p> <p>Date: 3/23/94</p> <p>15,000.00 1,251.457 14,949.55</p> <p>JIMMY FLAGG CERTIFYING OFFICER</p> <p>3/28/94</p> <p>14,949.55</p> <p>\$15,000.00</p>				

Notes:

A previous invoice, Invoice Number 94002, for the "CAM Integrated Circuit Model Complete, Paragraph G.1, Item 13" has the incorrect item reference number compared to the contract. It should have been for item "Paragraph G.1, Item 12".

MAR PAID

DISTRIBUTION LIST

NASA Headquarters

Code B/Chief Financial Officer/Comptroller
Code S/Associate Administrator for Space Science

NASA Field Installations

Director, Ames Research Center

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Non-NASA Federal Organizations and Individuals

Assistant to the President for Science and Technology Policy
Deputy Associate Director, Energy and Science Division, Office of Management and Budget
Budget Examiner, Energy Science Division, Office of Management and Budget
Associate Director, National Security and International Affairs Division, General Accounting
Office
Special Counsel, Subcommittee on National Security, International Affairs, and Criminal
Justice

Chairman and Ranking Minority Member - Congressional Committees and Subcommittees

Senate Committee on Appropriations
Senate Subcommittee on VA-HUD-Independent Agencies
Senate Committee on Commerce, Science and Transportation
Senate Subcommittee on Science, Technology and Space
Senate Committee on Governmental Affairs
House Committee on Appropriations

House Subcommittee on VA-HUD-Independent Agencies
House Committee on Government Reform and Oversight
House Committee on Science
House Subcommittee on Space and Aeronautics

National Aeronautics and
Space Administration

Office of Inspector General
Langley Research Center
Hampton, VA 23681-0001



Reply to Attn of:

W

February 12, 1998

TO: Assistant Inspector General for Auditing *RR 2/24/98*

FROM: Independent Referencer, Auditor-in-Charge, and Program Director

SUBJECT: Certification of Independent Referencing, Audit Number A-HA-97-043.

The subject draft audit report has been independently referenced in accordance with IGM 9952.2 and all referencer comments have been satisfactorily resolved by the auditor-in-charge, Sandra L. Laccheo, and cleared by the referencer, Richard W. Hess. If you have any questions or need additional information, please call Lee T. Ball at 757-864-8500.

Handwritten signature of Richard W. Hess in cursive.

Independent Referencer

Handwritten signature of Sandra L. Laccheo in cursive.

Auditor-in-Charge

Handwritten signature of Lee T. Ball in cursive.

Program Director

cc: Division Director, A

1998 FEB 23 PM 1:21

