

PROJECT ADMINISTRATION DATA SHEET

ORIGINAL REVISION NO. _____

Project No. A-3474 GTRI/~~GIT~~ DATE 3/30/83

Project Director: Mark Strickland ~~School~~ Lab EML/HO

Sponsor: U. S. Army Missile Command; Redstone Arsenal, AL 35898

Type Agreement: Delivery Order No. 0003 under Contract DAAH01-83-D-A013

Award Period: From 2/1/83 To 9/30/83 (Performance) 11/30/83 (Reports)

Sponsor Amount: Total Estimated: \$ 220,000 Funded: \$ 220,000

Cost Sharing Amount: \$ None Cost Sharing No: _____

Title: System Integration Office Project Missile System Evaluation

ADMINISTRATIVE DATA

OCA Contact Frank H. Huff

1) Sponsor Technical Contact:
Dr. M. M. Hallum
Systems Simulation & Dev. Directorate
US Army Missile Command
US Army Missile Laboratory
ATTN; DRSMI-RDF
Redstone Arsenal, AL 35898

2) Sponsor Admin/Contractual Matters:
Mr. Thomas A. Bryant
Office of Naval Research
Room 206, O'Keefe Bldg.
Georgia Institute of Technology
Atlanta, Georgia 30332

Defense Priority Rating: DO-A2 under DMS Reg 1 Military Security Classification: Unclassified (general (or) Company/Industrial Proprietary: scope of work)

RESTRICTIONS

See Attached Gov't Supplemental Information Sheet for Additional Requirements.

Travel: Foreign travel must have prior approval - Contact OCA in each case. Domestic travel requires sponsor

approval where total will exceed greater of \$500 or 125% of approved proposal budget category. See additional restrictions on re-budgeting travel funds: (2) C-2(f) (page 4 of basic agreement)

Equipment: Title vests with (1) B-2(c) (page 3 of basic agreement)
Government; except that items costing less than \$1,000 vest with GIT if prior approval to purchase is obtained from the Contracting Officer.

COMMENTS:

Send information copy of all correspondence addressed to Administrative Contracting Officer (ACO) to Commander, US Army Missile Command, Attn: DRSMI-ICD~~3~~, Redstone Arsenal, AL 35898

COPIES TO:

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SR 794
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SPONSORED PROJECT TERMINATION/CLOSEOUT SHEET

Date October 26, 1983

Project No. A-3474

~~SR 794~~ Lab EML

Includes Subproject No.(s) _____

Project Director(s) Mark Strickland GTRI ~~GTR~~

Sponsor U. S. Army Missile Command

Title: System Integration Office Project Missile System Evaluation

Effective Completion Date: 9/30/83 (Performance) 11/30/83 (Reports)

Grant/Contract Closeout Actions Remaining:

- None
- Final Invoice ~~or Final Final Report~~
- Closing Documents
- Final Report of Inventions
- Govt. Property Inventory & Related Certificate
- Classified Material Certificate
- Other _____

Continues Project No. _____

Continued by Project No. _____

COPIES TO:

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- Research Security Services
- Reports Coordinator (OCA) ✓
- Legal Services

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- GTRI
- Research Communications (2)
- Project File
- Other _____

Monthly Technical Report No. 1
and
Monthly Cost and Performance Report No. 1

Report Period
February 1 to February 28, 1983

Report Prepared
April 22, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/31/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Data from Entries 1 and 2 of Phase IV testing were processed and analyzed.
The draft copy of Entry 1 report was written.

PROBLEMS ENCOUNTERED

None

WORK TO BE DONE

Complete Entry 1 Report and prepare the draft for Entry 2.

A-3474 COST INFORMATION

The following charges have been incurred against the contract during the period March 1 through March 31, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$ 8,883.63	\$ -0-
Fringe Benefits	1,068.96	-0-
Materials and Supplies	-0-	-0-
Travel	-0-	-0-
Subtotal	<u>\$10,759.52</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 47.2% of Subtotal)	5,078.49	-0-
TOTAL	<u>\$15,838.01</u>	<u>\$ -0-</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	5,986.65	148
Research Scientists II/Engineers II	-0-	-0-
Research Scientists I/Engineers I	2,426.22	93
Technicians/Draftsmen	-0-	-0-
Students	312.00	31
Secretarial/Clerical/Other	158.76	11
TOTAL	<u>\$8,883.63</u>	<u>283</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$8,883.63	\$ -0-	\$115,170.37
Fringe Benefits	23,075.00	1,875.89	-0-	21,199.11
Materials and Supplies	290.00	-0-	-0-	290.00
Travel	2,038.00	-0-	-0-	2,038.00
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>5,078.49</u>	<u>-0-</u>	<u>65,464.51</u>
 FUNDING	 \$220,000.00	 \$15,838.01	 \$ -0-	 \$204,161.99

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 10% of the proposed task has been completed.

Monthly Technical Report No. 2
and
Monthly Cost and Performance Report No. 2

Report Period
March 1 through March 31, 1983

Report Prepared
April 22, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/31/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Entry 1 report was completed and submitted and the draft of Entry 2 report was typed. Checkout of the analytic simulation was started.

PROBLEMS ENCOUNTERED

None

WORK TO BE DONE

Complete report from Entry 2. Complete checkout of the analytic simulation and begin productive runs.

A-3474 COST INFORMATION

The following charges have been incurred against the contract during the period February 1 through February 28, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$28,975.94	\$ -0-
Fringe Benefits	5,438.60	-0-
Materials and Supplies	-0-	-0-
Travel	12.00	-0-
Subtotal	<u>\$34,426.62</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 47.2% of Subtotal)	16,249.37	-0-
TOTAL	<u>\$50,675.99</u>	<u>\$ -0-</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	9,434.18	234
Research Scientists II/Engineers II	4,922.61	153
Research Scientists I/Engineers I	11,063.34	422
Technicians/Draftsmen	-0-	-0-
Students	2,915.20	291
Secretarial/Clerical/Other	640.61	45
TOTAL	<u>\$28,975.94</u>	<u>1145</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$37,859.57	\$ -0-	\$86,194.43
Fringe Benefits	23,075.00	7,314.57	-0-	15,760.43
Materials and Supplies	290.00	-0-	-0-	290.00
Travel	2,038.00	12.00	-0-	2,026.00
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>21,327.86</u>	<u>-0-</u>	<u>49,215.14</u>
 FUNDING	 \$220,000.00	 \$66,514.00	 \$ -0-	 \$153,486.00

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 30% of the proposed task has been completed.

LIBRARY DOES NOT HAVE

Monthly Technical Report No. 3 and Monthly Cost and Performance Report No. 3,
April 1 through April 30, 1983

Monthly Technical Report No. 4
and
Monthly Cost and Performance Report No. 4

Report Period
May 1 through May 31, 1983

Report Prepared
June 16, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/30/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Checkout of the analytic simulation was completed. Four types of analytic simulation runs were demonstrated. Worked on Phase III Summary Report draft.

PROBLEMS ENCOUNTERED

None

WORK TO BE DONE

Complete analytic simulation production runs. Complete draft of the Phase III Summary Report. Prepare briefing for the project office.

Cost and Performance Report No. 4

Contract DAAH01-83-D-A013, D.O. 0003

GT/EES Project A-3474

The following charges have been incurred against the contract during the period May 1 through May 31, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$20,094.28	\$ -0-
Fringe Benefits	3,337.30	-0-
Materials and Supplies	103.45	40.05
Travel	-0-	-0-
Subtotal	<u>\$23,535.03</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 47.2% of Subtotal)	11,108.53	-0-
TOTAL	<u>\$34,643.56</u>	<u>\$ 40.05</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ 3,988.95	133
Senior Research Scientists/Engineers	6,851.68	282
Research Scientists II/Engineers II	370.22	19
Research Scientists I/Engineers I	1,697.72	108
Technicians/Draftsmen	-0-	-0-
Students	5,641.48	822
Secretarial/Clerical/Other	1,544.23	181
TOTAL	<u>\$20,094.28</u>	<u>1545</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$98,269.14	\$ -0-	\$25,784.86
Fringe Benefits	23,075.00	18,351.94	-0-	4,723.06
Materials and Supplies	290.00	978.45	40.05	(688.45)
Travel	2,038.00	1,072.66	-0-	965.34
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>56,013.27</u>	<u>-0-</u>	<u>14,529.73</u>
 FUNDING	 \$220,000.00	 \$174,685.46	 \$ 40.05	 \$45,314.54

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 79% of the proposed task has been completed.

Monthly Technical Report No. 5
and
Monthly Cost and Performance Report No. 5

Report Period
June 1 through June 30, 1983

Report Prepared
July 26, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/30/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Approximately 200 analytic simulation runs were completed. Work continued on Phase III Summary Report draft. A project office briefing was given on June 8. Results from FY83 and plans for FY84 were discussed.

PROBLEMS ENCOUNTERED

None

WORK TO BE DONE

Complete analytic simulation production runs. Complete draft of the Phase III Summary Report. Complete plans and statement of work for FY84.

Cost and Performance Report No. 5

Contract DAAH01-83-D-A013, D.O. 0003

GT/EES Project A-3474

The following charges have been incurred against the contract during the period June 1 through June 30, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$ 5,225.71	\$ -0-
Fringe Benefits	319.60	-0-
Materials and Supplies	6.40	-0-
Travel	12.00	-0-
Subtotal	<u>\$ 5,563.71</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 47.2% of Subtotal)	2,626.07	-0-
TOTAL	<u>\$ 8,189.78</u>	<u>\$ -0-</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	-0-	-0-
Research Scientists II/Engineers II	-0-	-0-
Research Scientists I/Engineers I	-0-	-0-
Technicians/Draftsmen	-0-	-0-
Students	3,963.36	579
Secretarial/Clerical/Other	1,262.35	158
TOTAL	<u>\$ 5,225.71</u>	<u>737</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$103,494.85	\$ -0-	\$20,559.15
Fringe Benefits	23,075.00	18,671.54	-0-	4,403.46
Materials and Supplies	290.00	984.85	-0-	(694.85)
Travel	2,038.00	1,084.66	-0-	953.34
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>58,639.34</u>	<u>-0-</u>	<u>11,903.66</u>
 FUNDING	 \$220,000.00	 \$182,875.24	 \$ -0-	 \$37,124.76

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 83% of the proposed task has been completed.

Monthly Technical Report No. 6
and
Monthly Cost and Performance Report No. 6

Report Period
July 1 through July 31, 1983

Report Prepared
August 19, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/30/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Over 100 additional analytic simulation runs were completed. Typing was started on the Phase III Summary Report. Planning for FY84 continued, and the statement of work was submitted.

PROBLEMS ENCOUNTERED

None

WORK TO BE DONE

Complete the first phase of the analytic simulation production runs.
Complete and submit the summary report.

Cost and Performance Report No. 6

Contract DAAH01-83-D-A013, D.O. 0003

GT/EES Project A-3474

The following charges have been incurred against the contract during the period July 1 through July 31, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$ 5,046.77	\$ -0-
Fringe Benefits	632.97	-0-
Materials and Supplies	1.20	-0-
Travel	-0-	-0-
Subtotal	<u>\$ 5,680.94</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 49.4% of Subtotal)	2,806.38	-0-
TOTAL	<u>\$ 8,487.32</u>	<u>\$ -0-</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	2,225.25	88
Research Scientists II/Engineers II	-0-	-0-
Research Scientists I/Engineers I	-0-	-0-
Technicians/Draftsmen	-0-	-0-
Students	2,421.47	338
Secretarial/Clerical/Other	400.05	46
TOTAL	<u>\$ 5,046.77</u>	<u>472</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$108,541.62	\$ -0-	\$15,512.38
Fringe Benefits	23,075.00	19,304.51	-0-	3,770.49
Materials and Supplies	290.00	986.05	-0-	(696.05)
Travel	2,038.00	1,084.66	-0-	953.34
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>61,445.72</u>	<u>-0-</u>	<u>9,097.28</u>
 FUNDING	 \$220,000.00	 \$191,362.56	 \$ -0-	 \$28,637.44

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 88% of the proposed task has been completed.

Monthly Technical Report No. 7
and
Monthly Cost and Performance Report No. 7

Report Period
August 1 through August 31, 1983

Report Prepared
September 12, 1983

M. A. Strickland

Contract No. DAAH01-83-D-A013
Delivery Order No. 0003
Project No. A-3474

Effective Date: 02/01/83
Expiration Date: 09/30/83

Prepared for

U. S. Army Missile Command
Attn: DRSMI-ICDB/Glass
Redstone Arsenal, Alabama 35898

Prepared by

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia 30332

WORK PERFORMED DURING THIS REPORTING PERIOD

Over 200 analytic simulation runs were completed. Typing of the Phase III Summary Report was completed and the review of the document started. Documentation of the real-time simulation program was completed and the report typed. Planning for FY-84 test equipment evaluation was started.

PROBLEMS ENCOUNTERED

None.

WORK TO BE DONE

Complete and submit the Phase III summary report. Complete planning for the test equipment evaluation. Document the analytic simulation program and the results from the first phase of production runs.

Cost and Performance Report No. 7

Contract DAAH01-83-D-A013, D.O. 0003

GT/EES Project A-3474

The following charges have been incurred against the contract during the period August 1 through August 31, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$ 2,574.16	\$ -0-
Fringe Benefits	61.82	-0-
Materials and Supplies	1.20	-0-
Travel	980.72	-0-
Subtotal	<u>\$ 3,617.90</u>	<u>\$ -0-</u>
Equipment	-0-	-0-
Overhead (at 49.4% of Subtotal)	1,787.24	-0-
TOTAL	<u>\$ 5,405.14</u>	<u>\$ -0-</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	-0-	-0-
Research Scientists II/Engineers II	-0-	-0-
Research Scientists I/Engineers I	-0-	-0-
Technicians/Draftsmen	-0-	-0-
Students	2,142.60	299
Secretarial/Clerical/Other	431.56	50
TOTAL	<u>\$ 2,574.16</u>	<u>349</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$124,054.00	\$111,115.78	\$ -0-	\$12,938.22
Fringe Benefits	23,075.00	19,366.33	-0-	3,708.67
Materials and Supplies	1,213.20	987.25	-0-	225.95
Travel	2,038.00	2,065.38	-0-	(27.38)
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>63,232.96</u>	<u>-0-</u>	<u>7,310.04</u>
 FUNDING	 \$220,000.00	 \$196,767.70	 \$ -0-	 \$23,232.30

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 90% of the proposed task has been completed.

Cost and Performance Report No. 8

Contract DAAH01-83-D-A013, D.O. 0003

GT/EES Project A-3474

The following charges have been incurred against the contract during the period September 1 through September 30, 1983.

	<u>Expended</u>	<u>Encumbered</u>
Personal Services (PS)	\$ 3,087.07	\$ -0-
Fringe Benefits	213.76	-0-
Materials and Supplies	99.45	45.00
Travel	102.57	-0-
Subtotal	<u>\$ 3,502.85</u>	<u>\$ 45.00</u>
Equipment	-0-	-0-
Overhead (at 49.4% of Subtotal)	1,718.12	-0-
TOTAL	<u>\$ 5,220.97</u>	<u>\$ 45.00</u>

The breakdown of personal services is as follows:

	<u>Dollars</u>	<u>Approximate Manhours</u>
Principal Research Scientists/Engineers	\$ -0-	-0-
Senior Research Scientists/Engineers	-0-	-0-
Research Scientists II/Engineers II	-0-	-0-
Research Scientists I/Engineers I	-0-	-0-
Technicians/Draftsmen	-0-	-0-
Students	2,027.40	283
Secretarial/Clerical/Other	604.03	70
TOTAL	<u>\$ 2,631.43</u>	<u>353</u>

The current financial status of the contract is as follows:

	<u>Budget As Proposed</u>	<u>Expended</u>	<u>Encumbered</u>	<u>Free Balance</u>
Personal Services	\$123,130.80	\$114,202.85	\$ -0-	\$ 8,927.95
Fringe Benefits	23,075.00	19,580.09	-0-	3,494.91
Materials and Supplies	1,213.20	1,086.70	45.00	81.50
Travel	2,038.00	2,167.95	-0-	(129.95)
Equipment	-0-	-0-	-0-	-0-
Overhead	<u>70,543.00</u>	<u>64,951.08</u>	<u>-0-</u>	<u>5,591.92</u>
 FUNDING	 \$220,000.00	 \$201,988.67	 \$ 45.00	 \$17,966.33

Based on present full funding, the funding and equivalent manhours are sufficient to complete the task. Approximately 93% of the proposed task has been completed.

WORK PERFORMED DURING THIS REPORTING PERIOD

Planning for the FY 84 activity continued. A total of 12 weeks of RFSS testing is planned. Approximately 100 additional analytic simulation runs were made. The Phase III Summary Report and the Real-Time Simulation Program Report were submitted.

PROBLEMS ENCOUNTERED

None.

WORK TO BE DONE

Document the analytic simulation program and the results from the first phase of production runs. Plan details for the first two RFSS entries.