

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION  
SPONSORED PROJECT INITIATION

Date: 11/17/80

Project Title: Mast Comparison Study

Project No: A-2754

Project Director: Mr. M.T. Tuley

Sponsor: Naval Ocean Systems Center; San Diego, CA 92152

Agreement Period: From 9/2/80 Until 2/15/81

Type Agreement: Purchase Order No. N66001-80-M-7389

Amount: \$9,997 (Fixed Price)

Reports Required: Monthly Progress Reports; Final Technical Report

Sponsor Contact Person (s):

Technical Matters

Contractual Matters  
(thru OCA)

Naval Ocean Systems Center  
271 Catalina Blvd.  
San Diego, CA 92152  
(714) 225-2534  
M.Cale  
Contracting Officer

Defense Priority Rating: DO-C9 under DMS Reg. 1

Assigned to: RAIL/MAD (~~SC/SS~~/Laboratory)

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2-  
SR-227

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION  
SPONSORED PROJECT TERMINATION

Date: 8/17/81

Project Title: Mast Comparison Study  
Project No: A-2754  
Project Director: M. T. Tuley  
Sponsor: Naval Ocean Systems Center, San Diego, CA

Effective Termination Date: 4/15/81

Clearance of Accounting Charges: 4/15/81

Grant/Contract Closeout Actions Remaining:

- Final Invoice and Closing Documents (Fixed Price)
- Final Fiscal Report
- Final Report of Inventions
- Govt. Property Inventory & Related Certificate
- Classified Material Certificate
- Other \_\_\_\_\_

Assigned to: RAIL/MAD (School/Laboratory)

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# ENGINEERING EXPERIMENT STATION

GEORGIA INSTITUTE OF TECHNOLOGY • ATLANTA, GEORGIA 30332

16 February 1981

Headquarters  
Naval Ocean Systems Center  
271 Catalina Boulevard  
San Diego, CA 92152

Attention: W. C. Weinreich  
Code 7313

Subject: Monthly Progress Report Numbers 1 - 5 (Deliverable Nos. 1 - 5)  
on Contract N66001-80-M-7389 (GIT/EES Project A-2754)

Gentlemen:

This letter report summarizes progress on the above reference contract from September 1980 through January 1981.

A computer target model has been constructed for the Type 16 and predictions of its radar cross section (RCS) have been compared with RCS values measured on the free space range at Teledyne Micronetics. Comparisons of RCS, both free space and with multipath, have been begun for the Type 16 and five other existing masts. This effort will be completed during the next reporting period.

Mr. Harold L. Bassett of Georgia Tech visited NOSC in December 1980 to inspect the Type 16, to obtain additional drawings, and to discuss the RCS data.

During the next reporting period, the RCS comparisons between the Type 16 and other masts will be completed. Estimates of the RCS of the Type 16 in combination with other masts will be begun. Threat scenarios will be defined and probability of detection threat assessment calculation will be begun.

Total personal services expenditures on the project as of 1 January 1981 were \$762, with total expenditures of \$1402.

Respectfully submitted.

M. T. Tuley  
Project Director

Approved:

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H. L. Bassett, Chief  
Modeling and Analysis Division



ENGINEERING EXPERIMENT STATION  
GEORGIA INSTITUTE OF TECHNOLOGY • ATLANTA, GEORGIA 30332

12 March 1981

Headquarters  
Naval Ocean Systems Center  
271 Catalina Boulevard  
San Diego, CA 92152

Attention: W. C. Weinreich  
Code 7313

Subject: Monthly Progress Report Number 6 (Deliverable No. 6) on  
Contract N66001-80-M-7389 (GIT/EES Project A-2754)

Gentlemen:

This letter report summarizes progress on the above referenced contract during February 1981.

The major efforts during this reporting period were expended in a comparison of the Type 16 radar cross section (RCS) predictions with RCS predictions for five other masts. Target models for the other masts have been primarily based on data obtained by Teledyne Micronetics on their overwater reflectivity range. Comparison of individual RCS predictions and of combination mast predictions were completed for both free space and multipath environments. Threat scenarios were also defined and work was begun on production of vulnerability estimates for masts and mast combinations.

Work in March will concentrate on completion of probability of detection predictions for a vulnerability assessment and on documentation of results.

Personal service expenditures on the project during January were \$542.04, and total project expenditures to 1 February 1981 are \$2994.87.

Respectfully submitted.

M. T. Tuley  
Project Director

Approved:

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H. L. Bassett, Chief  
Modeling and Analysis Division



ENGINEERING EXPERIMENT STATION  
GEORGIA INSTITUTE OF TECHNOLOGY • ATLANTA, GEORGIA 30332

14 April 1981

Headquarters  
Naval Ocean Systems Center  
271 Catalina Boulevard  
San Diego, CA 92152

Attention: W. C. Weinreich  
Code 7313

Subject: Monthly Progress Report Number 7 on Contract N66001-80-M-7389  
(GIT/EES Project A-2754)

Gentlemen:

This letter report summarizes progress on the above reference contract during March 1981.

The major efforts in March were concentrated on completion of probability of detection predictions and on drafting a final report. In addition, a letter was mailed to the sponsor in March providing a preliminary report on comparative radar cross section values for targets of interest in operational geometries.

Work in April will be concentrated on completion and delivery of the final report.

Personal services expenditures on the project during February were \$2,242.62 and total project expenditures to 1 March 1981 are \$7,068.43.

Respectfully submitted,

M. T. Tuley  
Project Director

swc

Approved:

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H. L. Bassett, Chief  
Modeling and Analysis Division