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WORK PLAN

EVALUATION OF A MOTOR VEHICLE EMISSIONS INSPECTION AND
MAINTENANCE PROGRAM FOR INDIANA

WORK PLAN

Prepared for
Air Programs Branch - Region V
U.S. ENVIRONMENTAL PROTECTION AGENCY

Date Prepared: 15 March 1978

Under Contract No. 68-02-2887

Work Assignment No. 4

(GCA 1-615-014)

GCA CORPORATION
GCA/TECHNOLOGY DIVISION
Bedford, Massachusetts

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3.0 INTRODUCTION

EVALUATION OF A MOTOR VEHICLE EMISSIONS INSPECTION AND MAINTENANCE PROGRAM FOR INDIANA

Contractor: GCA/Technology Division Location: Bedford, Massachusetts

Contract Project Manager: Theodore P. Midurski

Contract Business Representative: Arthur Engelman

EPA Project Officer: Wayne E. Pearson

EPA Task Officer: Gary V. Gulezian

This Work Plan is submitted in accordance with reporting requirements set forth in Work Assignment No. 4 of Contract No. 68-02-2887. The primary objective of this contract is to provide the State of Indiana with both background and technical information regarding motor vehicle emission inspection and maintenance programs.

To accomplish the stated objective, several specific tasks have been delineated in the Scope of Work. These tasks include:

1. Preparation of a report outlining all pertinent information on inspection and maintenance programs, especially in relationship to the needs and requirements of the State of Indiana;
2. Preparation of a series of three technical memoranda regarding:
 - a. Testing program;
 - b. Ownership of test lanes and equipment; and,
 - c. Test modes.
3. Investigation of the availability of data necessary to derive emission inventories and calculate Appendix N credits; and,
4. Identification of issues that need to be defined by the State in order to evaluate specific program options.

4.0 PROJECT APPROACH

GCA/Technology Division will draw heavily upon its extensive experience in the area of inspection/maintenance research in carrying out the duties required under this work assignment. Having just completed a compendium of information on inspection and maintenance for EPA's Office of Transportation and Land Use Policy, we will seek out any more recent information from our established contacts with the wide spectrum of individuals and agencies involved with the research and administration of emissions testing programs. The summary paper and the technical memoranda required under this task will be based upon this information, though such memoranda will be more technical and detailed in nature compared with the summary report.

We will contact the cognizant state and local agencies early in the task to determine the availability of data on which an emission inventory will be based and on which Appendix N emission credits will be calculated. We will also establish which metropolitan planning or transportation planning agencies, if any, are involved in performing evaluations of the air quality benefits of inspection and maintenance programs, so that duplications of effort will not occur.

Finally, we will develop a checklist for the State that delineates key issues involved in developing and implementing an inspection and maintenance program. The checklist will be based upon our appraisal of the guidance needed from the State in order to perform meaningful, detailed analyses of specific inspection and maintenance program configurations.

5.0 SCHEDULE OF WORK AND STAFFING

As shown by the accompanying table and diagram, the key staff members for the effort described in this Work Plan will be Ted Midurski, Frank Benesh, and Donna Vlasac. Mr. Midurski will serve as GCA's Program Manager.

The first milestone will be the completion of the summary paper specified as Task A in the Scope of Work. Concurrent effort will be expended on investigating the availability of data to be used in the development of emission inventories, as required, in accordance with Task C defined in the Scope of Work. Tasks B and D will be initiated towards the middle of the contract period.

All work under this contract will be completed by the end of the 6th week after contract initiation.

SCHEDULE OF WORK AND STAFFING— INDIANA

Week Ending	F. Benesh	T. Midurski	D. Vlasac	Jr. Engineer	Tech. Pub.	Total
3/26	8	8	—	—	—	16
4/2	10	24	—	—	—	34
4/9 ^a	20	8	40	20	18	106
4/16	8	—	40	20	—	68
4/23	8	14	40	14	9	85
4/30 ^b	—	—	32	—	9	41
Total	54	54	152	54	36	350

^aTravel: 2 persons/2 days/Indianapolis.

^bTravel: 1 person/2 days/Indianapolis.

6.0 PROGRAM SCHEDULE OF WORK

TASK	WEEKS AFTER CONTRACT INITIATION					
	1	2	3	4	5	6
A. SUMMARY REPORT	[Task Bar]					
B. TECHNICAL MEMORANDA		[Task Bar]				
C. INVESTIGATION OF DATA AVAILABILITY	[Task Bar]					
D. IDENTIFICATION OF ISSUES			[Task Bar]			

7.0

GCA/TECHNOLOGY DIVISION
A DIVISION OF GCA CORPORATION
Bedford, Massachusetts 01730

16 March 1978

COST PROPOSAL IN RESPONSE TO
CONTRACT NO. 68-02-2887, WORK ASSIGNMENT NO. 4
(GCA 1-615-014)

ATTACHMENT NO.

DESCRIPTION

1

Cost Proposal - Optional Form 60,

2

Detailed Travel Estimate

CONTRACT PRICING PROPOSAL

(RESEARCH AND DEVELOPMENT)

ATTACHMENT 1

Office of Management and Budget
Approval No. 29-RO184

This form is for use when (i) submission of cost or pricing data (see FPR 1-3.807-3) is required and (ii) substitution for the Optional Form 39 is authorized by the contracting officer.

PAGE NO

NO OF PAGES

NAME OF OFFEROR

GCA CORPORATION

HOME OFFICE ADDRESS

Burlington Road
Bedford, Massachusetts 01730

SUPPLIES AND/OR SERVICES TO BE FURNISHED

COST ESTIMATE

DIVISION(S) AND LOCATION(S) WHERE WORK IS TO BE PERFORMED

GCA/Technology Division, Bedford, Mass.

TOTAL AMOUNT OF PROPOSAL

\$ 9,303

GOV'T SOLICITATION NO

68-02-2887, WA #4

DETAIL DESCRIPTION OF COST ELEMENTS

1 DIRECT MATERIAL (Itemize on Exhibit A)	EST COST (\$)	TOTAL EST COST ¹	REFER-ENCE ²
a PURCHASED PARTS			
b. SUBCONTRACTED ITEMS			
c OTHER—(1) RAW MATERIAL			
(2) YOUR STANDARD COMMERCIAL ITEMS			
(3) INTERDIVISIONAL TRANSFERS (At other than cost)			
TOTAL DIRECT MATERIAL			
2 MATERIAL OVERHEAD ¹ (Rate % \\$/ base=)			
3 DIRECT LABOR (Specify)	ESTIMATED HOURS	RATE/HOUR	EST COST (\$)
TOTAL DIRECT LABOR			2,864 Exh. A
4 LABOR OVERHEAD (Specify Department or Cost Center) ¹	OH RATE	X BASE =	EST COST (\$)
Salary Related Cost	27.5%	2,864	788
Engineering Overhead	103.0%	3,652	3,762
TOTAL LABOR OVERHEAD			4,550
5 SPECIAL TESTING (Including field work at Government installations)		EST COST (\$)	
TOTAL SPECIAL TESTING			
6 SPECIAL EQUIPMENT (If direct charge) (Itemize on Exhibit A)			
7 TRAVEL (If direct charge) (Give details on attached Schedule)		EST COST (\$)	
a TRANSPORTATION			
b PER DIEM OR SUBSISTENCE			
TOTAL TRAVEL			842 Att. 2
8 CONSULTANTS (Identify—purpose—rate)		EST COST (\$)	
TOTAL CONSULTANTS			
9 OTHER DIRECT COSTS (Itemize on Exhibit A)			
TOTAL DIRECT COST AND OVERHEAD			8,256
11 GENERAL AND ADMINISTRATIVE EXPENSE (Rate 4.35 % of cost element Nos 10) ¹			359
12 ROYALTIES ¹			
TOTAL ESTIMATED COST			8,615
14 FEE OR PROFIT			688
TOTAL ESTIMATED COST AND FEE OR PROFIT			9,303

This proposal is submitted for use in connection with and in response to (Describe RFP, etc.)

Contract No. 68-02-2887, Work Assignment No. 4 (GCA 1-615-014)

and reflects our best estimates as of this date, in accordance with the Instructions to Offerors and the Footnotes which follow

TYPED NAME AND TITLE Arthur Engelman Manager, Contract Administration	SIGNATURE
NAME OF FIRM GCA CORPORATION	DATE OF SUBMISSION 16 March 1978

EXHIBIT A—SUPPORTING SCHEDULE (Specify. If more space is needed, use reverse)

COST EL NO	ITEM DESCRIPTION (See footnote 5)	EST COST (\$)																								
3.	DIRECT LABOR																									
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:15%;">Grade</th> <th style="width:40%;">Description</th> <th style="width:20%;">Hourly Rate</th> <th style="width:25%;">No. of Hrs.</th> </tr> <tr> <td>8</td> <td>Staff Scientist/Engineer</td> <td>\$10.25/hr</td> <td>54</td> </tr> <tr> <td>7</td> <td>Senior Scientist/Engineer</td> <td>\$ 8.93/hr</td> <td>206</td> </tr> <tr> <td>5</td> <td>Junior Scientist/Engineer</td> <td>\$ 5.63/hr</td> <td>54</td> </tr> <tr> <td>3</td> <td>Technical Illustrator</td> <td>\$ 5.25/hr</td> <td>12</td> </tr> <tr> <td>3</td> <td>Technical Typist</td> <td>\$ 4.34/hr</td> <td>24</td> </tr> </table>	Grade	Description	Hourly Rate	No. of Hrs.	8	Staff Scientist/Engineer	\$10.25/hr	54	7	Senior Scientist/Engineer	\$ 8.93/hr	206	5	Junior Scientist/Engineer	\$ 5.63/hr	54	3	Technical Illustrator	\$ 5.25/hr	12	3	Technical Typist	\$ 4.34/hr	24	
Grade	Description	Hourly Rate	No. of Hrs.																							
8	Staff Scientist/Engineer	\$10.25/hr	54																							
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5	Junior Scientist/Engineer	\$ 5.63/hr	54																							
3	Technical Illustrator	\$ 5.25/hr	12																							
3	Technical Typist	\$ 4.34/hr	24																							
	TOTAL DIRECT LABOR	350 MH \$2,864																								

I HAS ANY EXECUTIVE AGENCY OF THE UNITED STATES GOVERNMENT PERFORMED ANY REVIEW OF YOUR ACCOUNTS OR RECORDS IN CONNECTION WITH ANY OTHER GOVERNMENT PRIME CONTRACT OR SUBCONTRACT WITHIN THE PAST TWELVE MONTHS?
 YES NO (If yes, identify below)

NAME AND ADDRESS OF REVIEWING OFFICE AND INDIVIDUAL DCAA, 424 Trapelo Rd., Waltham, Mass., 02154 (Mr. L. Marotta)	TELEPHONE NUMBER/EXTENSION (617) 894-2400 Ext. 728
----------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------

II WILL YOU REQUIRE THE USE OF ANY GOVERNMENT PROPERTY IN THE PERFORMANCE OF THIS PROPOSED CONTRACT?
 YES NO (If yes, identify on reverse or separate page)

III DO YOU REQUIRE GOVERNMENT CONTRACT FINANCING TO PERFORM THIS PROPOSED CONTRACT?
 YES NO (If yes, identify) ADVANCE PAYMENTS PROGRESS PAYMENTS OR GUARANTEED LOANS

IV DO YOU NOW HOLD ANY CONTRACT (Or, do you have any independently financed (IR&D) projects) FOR THE SAME OR SIMILAR WORK CALLED FOR BY THIS PROPOSED CONTRACT?
 YES NO (If yes, identify)

V DOES THIS COST SUMMARY CONFORM WITH THE COST PRINCIPLES SET FORTH IN AGENCY REGULATIONS?
 YES NO (If no, explain on reverse or separate page)

16 March 1978

ATTACHMENT 2

DETAILED TRAVEL ESTIMATE
(GCA 1-615-014)

Boston, Mass. - Indianapolis, Indiana

	1 Trip -	2 Days/Trip -	2 Man/Trip	
Air Fare	-	2 Trip @ \$	184/Trip	\$368
Per Diem	-	4 Days @ \$	30/Day	120
Car Rental	-	2 Days @ \$	20/Day	40
Local Travel	-	2 Trip @ \$	10/Trip	<u>20</u>
				\$548

Boston, Mass. - Indianapolis, Indiana

	1 Trip -	1 Days/Trip -	2 Man/Trip	
Air Fare		1 Trip @ \$	184/Trip	\$184
Per Diem		2 Days @ \$	30/Day	60
Car Rental		2 Days @ \$	20/Day	40
Local Travel		1 Trip @ \$	10/Trip	<u>10</u>
				\$294

TOTAL TRAVEL..... \$842

CONTRACT NO. 68-02-2887
WORK ASSIGNMENT NO. 4
(GCA 1-615-014)

- X—X ESTIMATED EXPENDITURES
- X---X EXPERIENCED EXPENDITURES
- ESTIMATED TECHNICAL MAN-HOURS
- EXPERIENCED TECHNICAL MAN-HOURS

