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**SURVEY AND ANALYSIS OF SMALL BUSINESS AND MINORITY
BUSINESS ENTERPRISE PARTICIPATION IN SOLAR
ENERGY PROCUREMENT ACTIVITY**

February 1977

Work Performed Under Contract No. EG-77-C-01-4033

Division of Solar Energy
Energy Research and Development Administration
Washington, D. C.

TechMatics Corporation
Falls Church, Virginia



**ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
Division of Solar Energy**

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Price: Paper Copy \$4.00 (domestic)
\$6.50 (foreign)
Microfiche \$3.00 (domestic)
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Distribution Categories UC-59a, b, c

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**DIVISION OF SOLAR ENERGY
WASHINGTON, DC 20545**

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SURVEY AND ANALYSIS OF
SMALL BUSINESS AND MINORITY BUSINESS ENTERPRISE
PARTICIPATION IN SOLAR ENERGY PROCUREMENT ACTIVITY

1.0 INTRODUCTION

1.1 Purpose and Scope

This report presents the findings of a survey of Small Business and Minority Business Enterprise participation in Solar Energy Programs as a result of procurement actions by the Energy Research and Development Administration, Division of Solar Energy, and subcontract actions by Solar Energy prime contractors for Fiscal Year 1976 and the Transition Quarter (FY76 and TQ). This report also provides information about awards made to Small Business/Minority Business Enterprise (SB/MBE) by other Federal Agencies during the same period.

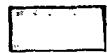
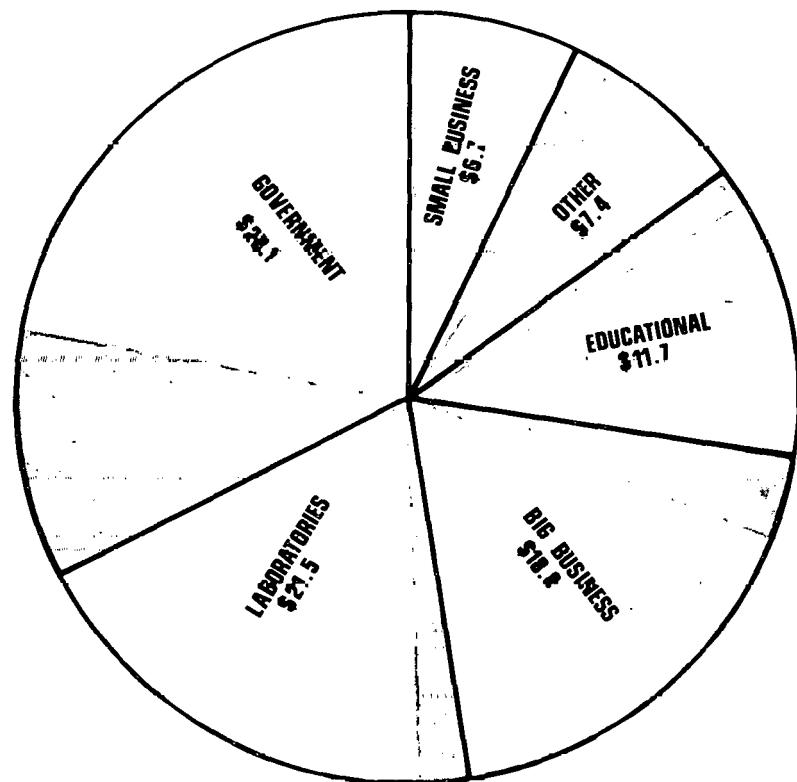
The major findings of this survey are presented in the following executive summary. Additionally, subsequent sections provide a more detailed description of Solar Energy and other Government Agency procurement, the methodology of soliciting, recording and processing survey data used as a basis for this report, and appendices containing sample survey forms and other supporting information.

1.2 Executive Summary

The primary findings of this survey indicate that \$6.7 million of a total \$94.3 million Solar Energy outlay, for FY76 and the TQ, was allocated to Small Business in the form of prime contracts. Another \$16.6 million was subcontracted to Small business/minority business enterprise (SB/MBE) by Solar Energy Prime contractors during this period. This represents a total of \$23.3 million Solar Energy dollars contracted and subcontracted to SB/MBE's or 24.7% of the \$94.3 million Solar Energy outlay during FY76 and the TQ.

Figure 1-1 breaks down the total \$94.3 million Solar Energy outlay into recipient prime contractor categories. The shaded areas represent the \$16.6 million subcontracted to Small Business and minority Business Enterprise by the various prime contractor categories during the same period.

Figure 1-1
Federal Funding for Solar Energy in FY76 and TQ*
(in millions of dollars)



Subcontracted to SB/MBE.

* July 1975 through September 1976

Figure 1-2 breaks out the recipients of Solar-Energy subcontracted dollars in terms of subcontractor category. Figure 1-3 expands on the Small business portion of Figure 1-2 by indicating the sources of Solar Energy dollars subcontracted to SB/MBE.

Figure 1-2
Recipients of Solar Energy
Subcontracted Dollars
(in millions)

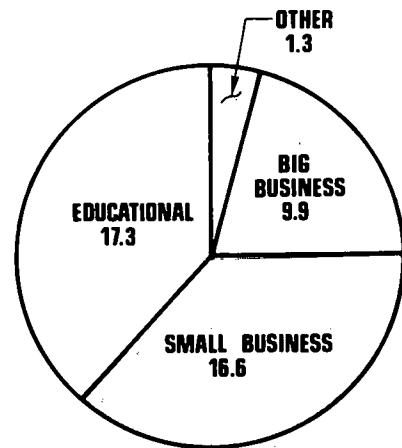
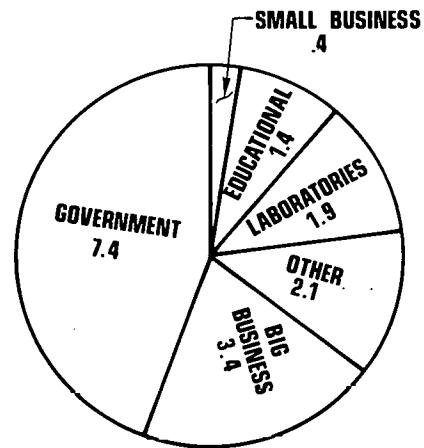


Figure 1-3
Sources of Solar Energy Dollars
Subcontracted to SB/MBE
(in millions)

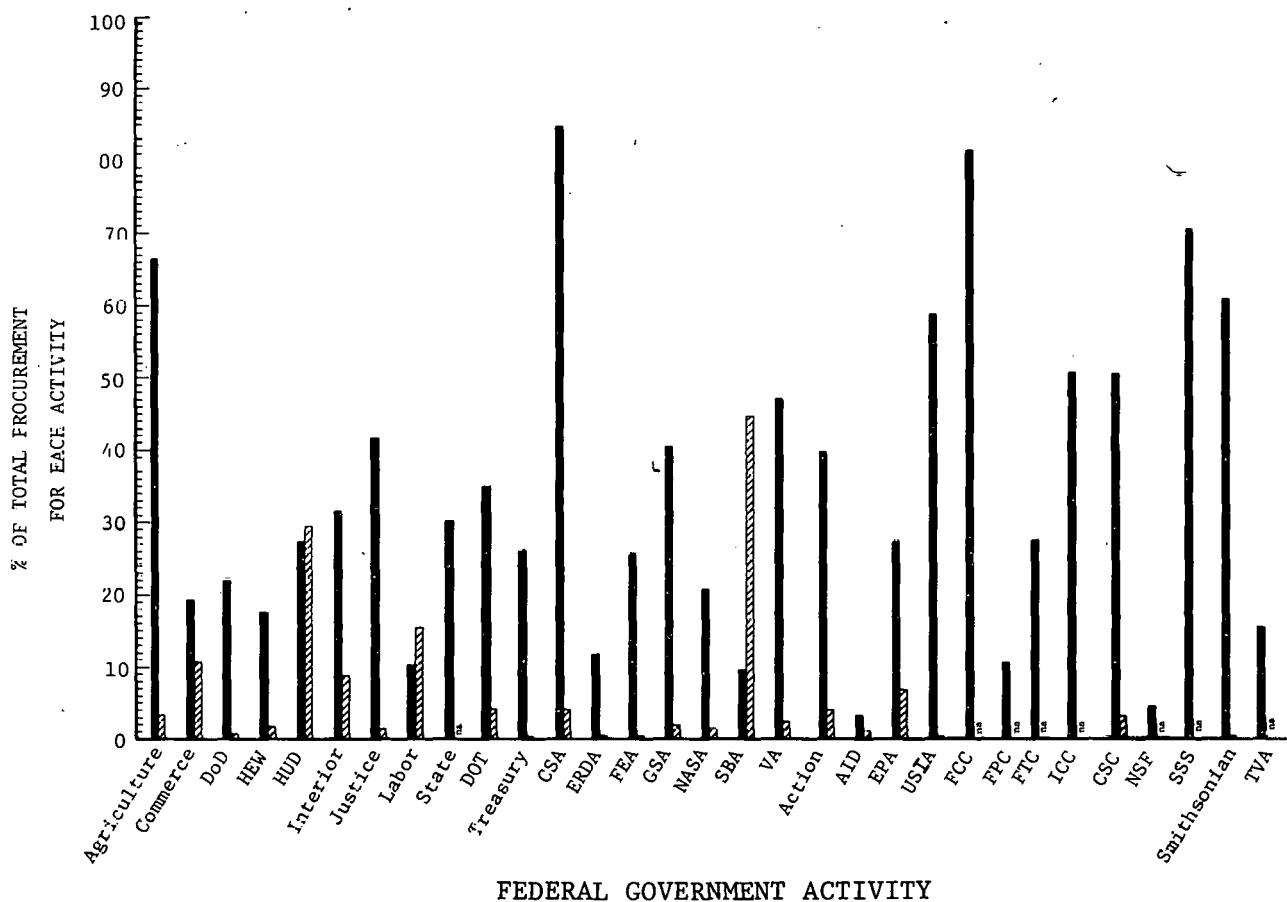


Note: The total Solar Energy dollars flowing to SB/MBE, as indicated in this report, are comprised of Solar Energy SB/MBE prime contract dollar outlays for FY76 and the TQ, and Solar Energy dollars subcontracted to SB/MBE by prime contractors during the same period. Because of the inherent time lag between Solar Energy prime-contract outlays and subsequent subcontract outlays, some of the subcontracted dollars will, of necessity, come from previous fiscal period. The problem however is, to a certain extent, eliminated by the fact that some of the FY76 and TQ prime contract outlays will not be subcontracted until the subsequent FY period.

Figure 1-4 provides a summary of other Federal Government procurement activities, during FY76 and the TQ, in respect to total procurement and SB/MBE procurement. This information is provided to facilitate the evaluation of Solar Energy procurement activities in respect to those of other Federal Government Organizations.

Figure 1-4

Summary of Federal Government Procurements
for FY76 and Transition Quarter
in Respect to SB/MBE



Key: Small Business
(not including minority business)
Minority Business
Data Not Available na

2.0 SURVEY OF PROCUREMENT ACTIVITIES

2.1 Survey Overview

This section provides the findings of a study, of Solar Energy procurement activities, during FY76 and the TQ, based on the Special Monthly Report for Solar Energy, a February 1977 telephone survey of prime contractors listed therein, and on an earlier mail survey commenced in July 1976. This information is supplemented with a tabulation of other Federal government procurement activities in respect to Small Business/Minority Business Enterprise (SB/MBE).

2.2 Solar Energy Procurement

2.2.1 Recipients of Solar Energy Prime Contract Dollars

Table 2-1 is a breakdown of Solar Energy dollar outlays for FY76 and the TQ. These dollar outlays are derived from the Special Monthly Report for Solar Energy, with the exception of the Laboratories, and are adjusted to reflect corrections resulting from communications with the various contracting officers or other cognizant prime contractor representatives (Ref. Appendix D).

Table 2-1

Recipients of Solar Energy Prime Contract Dollars (FY76 + TQ)

Contract Recipient Category	No. of Prime Contracts		Total Solar Energy Outlay (FY76 + TQ)	Percent Total Outlay
	Active at End of TQ	Awarded FY76 + TQ		
Government	78	40	\$28,129,002	29.8%
Laboratories	--	47*	21,494,000*	22.8
Big Business	109	77	18,793,647	20.0
Educational	105	87	11,726,884	12.4
Other	30	19	7,399,733	7.9
Small Business	44	40	6,737,092	7.1
Totals	366 **	310	\$94,280,358	100.0%

* Total derived from Div. of Solar Energy FOP.

** Not including laboratories

2.2.2 Recipients of Solar Energy Subcontract Dollars

Table 2-2 is a breakdown of Solar-Energy subcontracted dollars, by category for FY76 and the TQ, as reported by Solar-Energy prime contractors during the telephone survey and as reported by laboratories to an earlier letter survey.

Table 2-2

Recipients of Solar Energy Subcontract Dollars

Category Receiving Subcontract Dollars	Solar-Energy Subcontract Dollars Received (by Category)	Percent of Total Subcontract Dollars
Educational	\$17,337,735	38.4%
Small Business	16,569,613*	36.7
Big Business	9,908,177	22.0
Other	1,317,021	2.9
Totals	\$45,132,546	100.0%

* Includes \$488,030 subcontracted to 9 MBE's.

2.2.3 Sources of SB/MBE Solar Energy Subcontract Dollars

Table 2-3 is a breakdown of the sources of Solar-Energy dollars subcontracted to SB/MBE, during FY76 and the TQ, as reported by Solar Energy prime contractors in the telephone survey and by laboratories in letter responses.

Table 2-3

Sources of Solar Energy Dollars Subcontracted to SB/MBE

Category Subcontracting to SB/MBE	Solar Energy Dollars Subcontracted to SB/MBE	Percent of Total Dollars Subcontracted to SB/MBE
Government	\$ 7,351,208	44.4%
Big Business	3,345,464	20.2
Other	2,053,908	12.4
Laboratories	1,932,210*	11.6
Educational	1,443,123	8.7
Small Business	443,700	2.7
Totals	\$16,569,613	100.0%

* Extrapolated to include Sandia (Ref. Appendix C, para g)

2.2.4 Solar Energy Prime and Subcontract Dollars Allocated by State

Table 2-4 presents the Solar Energy, small business, prime contract dollar outlay by state as derived from the Special Monthly Report For Solar Energy. This table also indicates Solar Energy subcontracted dollars, to Small Business broken down by state, as derived from the telephone interviewers with Solar Energy prime contractor representatives. For comparative purposes, total Solar Energy prime contract outlay is provided for applicable states.

TABLE 2-4

SOLAR ENERGY PRIME CONTRACT AND SUBCONTRACT DOLLAR AWARDS TO SMALL BUSINESS BY STATE*

State	Prime Contracts to SB/MBE		Subcontracts to SB/MBE		FY76 & TQ Total Prime Contracts Dollars
	Contracts	Dollars	Contracts	Dollars	
Alabama			3	\$ 440,321	\$ 1,366,743
Alaska					102,719
Arizona			2	48,055	1,009,550
California	9	\$ 907,498	31	2,469,491	18,539,420
Colorado	2	238,890	11	1,374,160	1,033,223
Connecticut	2	372,718	3	9,300	768,920
Delaware			1	15,000	764,265
Florida	1	320,241	7	191,878	1,099,104
Georgia			4	54,311	714,433
Hawaii			2	34,097	35,879
Illinois			3	44,751	1,135,795
Indiana					
Iowa					76,289
Kansas			2	91,642	
Kentucky	1	20,129			190,469
Louisiana			1	175,647	567,305
Maryland	3	470,200	30	340,206	2,906,392
Massachusetts	5	835,728	12	341,891	2,407,701
Michigan			2	73,830	4,040,471
Minnesota	1	350,000	5	79,586	1,990,471
Missouri			2	82,030	1,367,029
Montana			1	19,748	
New Hampshire	1	28,600	5	199,140	1,201,632
New Jersey	2	771,867	11	445,363	1,394,590
New Mexico	2	867,924	8	294,775	1,028,664
New York	1	68,088	2	30,500	1,495,678
Nevada	1	41,000			41,000
North Carolina			2	25,000	529,582
Oregon			1	6,100	174,555
Ohio			24	4,755,569	4,648,886
Oklahoma			2	68,935	185,936
Pennsylvania			24	425,502	2,072,547
Puerto Rico			2	36,000	
South Carolina	1	52,616	3	72,000	191,616
South Dakota			2	92,105	327,827
Tennessee	1	93,357			105,357
Texas	1	32,205	11	1,204,003	3,250,591
Virginia	3	534,081	13	404,272	1,447,130
Washington	1	634,000			785,086
Wash. D.C.	2	97,950	15	593,800	12,905,134
West Va.			4	31,265	212,822
Wisconsin					70,360
Wyoming					38,370

* Does not include Laboratory Subcontracts to SB/MBE.

2.3 Other Federal Government Procurement

Tables 2-5, 2-6, and 2-7 provide a summary of Federal Government Procurements in respect to Small Business and Minority Business for FY76 and the TQ. Table 2-5 covers FY76; Table 2-6, the TQ; and Table 2-7, the combined FY76 and TQ Federal Government Procurements.

These tables summarize Federal Government procurement by Federal Departments, selected administrations, agencies, commissions, and other government activities. The data presented in these tables was obtained from Small Business Administration reports, General Services Administration procurement summaries, and from telephone calls to appropriate Government Activities as indicated in Para. 3.2.

NOTE: In these tables, percentages are rounded off to the nearest tenth of one percent. Any percentage indicated as 0.1 should be interpreted as 0.1% or less. In those cases where data was not available, the indicator "n.a." has been entered into the table.

OFFICE

OFFICE	TOTAL	SMALL BUSINESS	%	MINORITY BUSINESS	%	MINORITY GRANTS
<u>Departments</u>						
Agriculture	\$ 352,726,000	\$ 228,224,389	64.7	\$ 12,499,611	7.5	-
Commerce	302,480,000	53,138,445	17.6	37,943,555	12.5	\$ 54,766,000
Defense	n.a.	n.a.		358,370,273		
Health, Education & Welfare	1,759,292,000	290,087,253	16.5	24,932,747	1.4	150,000
Housing & Urban Development	257,103,000	75,502,223	29.4	66,757,777	26.0	8,159,000
Interior	1,203,701,000	344,104,838	28.6	136,987,162	11.4	959,600
Justice	166,537,000	75,564,640	45.4	2,426,360	1.5	-
Labor	129,866,000	7,984,954	6.1	11,188,046	8.6	-
State	41,953,000	13,892,000	33.1	n.a.	-	-
Transportation	668,108,000	238,295,059	35.7	31,315,941	4.7	-
Treasury	251,349,000	69,006,647	27.5	626,353	0.2	-
<u>Administrations</u>						
Community Services	1,003,000	164,733	16.5	144,267	14.4	19,978,000
Energy Research & Development	4,183,707,000	504,855,514	12.1	15,352,486	0.4	-
Federal Energy	51,509,000	15,959,000	31.0	270,000	0.5	-
General Services	1,708,499,000	662,324,164	38.8	36,168,836	2.1	-
National Aeronautics & Space	2,910,066,000	179,214,449	6.2	39,110,551	1.3	-
Small Business Administration	10,004,000	602,542	6.0	4,788,458	47.9	-
Veterans	1,376,143,000	629,075,366	45.7	34,704,634	2.5	-
<u>Agencies</u>						
Action	10,526,000	4,218,745	40.1	254,255	2.4	-
International Development	241,438,000	5,468,465	2.3	2,121,535	0.9	-
Environmental Protection	155,080,000	42,270,689	27.3	14,740,311	9.5	-
United States Information	23,087,000	14,012,253	60.7	35,747	0.2	-
<u>Commissions</u>						
Federal Communications	4,100,000	3,348,000	81.7	n.a.	-	-
Federal Power	4,039,000	323,000	8.0	n.a.	-	-
Federal Trade	4,787,000	1,378,000	28.8	n.a.	-	-
Interstate Commerce	3,116,000	1,382,000	44.4	n.a.	-	-
United States Civil Service	5,825,000	2,680,387	46.0	241,613	4.2	-
<u>Other Independent Establishment</u>						
National Science Foundation	118,701,000	5,172,000	4.4	n.a.	-	-
Selective Service	282,000	61,000	21.6	n.a.	-	-
Smithsonian Institute	39,349,000	24,569,545	62.4	24,455	0.1	-
Tennessee Valley Authority	1,887,926,000	313,522,000	16.6	n.a.	-	-

TABLE 2-5
GOVERNMENT AGENCY PROCUREMENTS (FY1976)

OFFICE	TOTAL	SMALL BUSINESS	%	MINORITY BUSINESS	%	MINORITY GRANTS
<u>Departments</u>						
Agriculture	\$ 140,623,000	\$ 100,142,034	71.2	\$ 2,667,966	1.9	
Commerce	98,580,000	23,369,506	23.7	3,876,494	3.9	\$ 9,965,000
Defense	n.a.	n.a.		86,307,123		
Health, Education & Welfare	307,477,000	72,763,116	23.7	7,530,882	2.4	
Housing & Urban Development	77,701,000	15,687,148	20.2	31,996,852	41.2	
Interior	393,739,000	757,758,061	40.1	2,863,939	0.7	
Justice	64,908,000	21,179,313	32.6	1,017,687	1.6	
Labor	53,119,000	10,584,000	19.9	16,963,369	31.9	
State	13,924,000	3,027,000	21.7	n.a.	-	
Transportation	310,328,000	103,764,401	33.4	8,503,599	2.7	
Treasury	84,578,000	19,558,500	23.1	126,500	0.2	
<u>Administrations</u>						
Community Services	4,929,000	4,829,000	98.0	100,000	2.0	
Energy Research & Development	1,449,479,000	163,004,398	11.2	139,602	0.1	47,490,500
Federal Energy	36,695,000	6,450,956	17.6	28,044	0.1	
General Services	500,986,000	225,594,714	45.0	8,885,286	1.8	
National Aeronautics & Space	751,488,000	57,635,346	7.7	10,743,654	1.4	
Small Business Administration	2,785,000	589,737	21.2	933,263	33.5	
Veterans	447,733,000	228,676,352	51.1	9,556,648	2.1	
<u>Agencies</u>						
Action	7,069,000	2,693,578	38.1	457,422	6.5	
International Development	49,155,000	3,521,678	7.2	1,140,322	2.3	
Environmental Protection	112,606,000	30,301,499	26.9	3,497,501	3.1	
United States Information	11,171,000	5,929,000	53.1	n.a.	-	
<u>Commissions</u>						
Federal Communications	1,325,000	1,050,000	79.2	n.a.	-	
Federal Power	245,000	126,000	51.4	n.a.	-	
Federal Trade	1,589,000	407,000	24.1	n.a.	-	
Interstate Commerce	1,344,000	879,000	65.4	n.a.	-	
United States Civil Service	2,738,000	1,627,299	59.5	23,701	0.9	
<u>Other Independent Establishment</u>						
National Science Foundation	30,911,000	1,599,000	5.2	n.a.	-	
Selective Service	623,000	580,000	93.1	n.a.	-	
Smithsonian Institute	8,633,000	4,656,000	53.9	n.a.	-	
Tennessee Valley Authority	149,030,000	565,000	83.2	n.a.	-	

TABLE 2-6

GOVERNMENT AGENCY PROCUREMENTS (TRANSITION QUARTER)

OFFICE

OFFICE	TOTAL	SMALL BUSINESS	%	MINORITY BUSINESS	%	MINORITY GRANTS
<u>Departments</u>						
Agriculture	\$ 493,349,000	\$ 328,366,423	66.6	\$ 15,167,577	3.1	
Commerce	401,060,000	76,507,951	19.1	41,820,049	10.4	\$ 64,731,000
Defense	49,240,000,000	9,930,322,604	20.2	444,677,396	0.9	
Health, Education & Welfare	2,066,769,000	362,850,369	17.6	32,463,629	1.6	150,000
Housing & Urban Development	334,804,000	91,189,371	27.2	98,754,629	29.5	8,159,000
Interior	1,597,440,000	501,862,899	31.4	139,851,101	8.8	959,000
Justice	231,445,000	96,743,953	41.8	3,444,047	1.5	
Labor	182,985,000	18,568,954	10.1	28,151,415	15.4	
State	55,877,000	16,919,000	30.3	n.a.	-	
Transportation	978,436,000	342,059,559	35.0	39,819,540	4.1	
Treasury	335,927,000	88,565,147	26.4	752,853	0.2	
<u>Administrations</u>						
Community Services	5,932,000	4,993,733	84.2	244,267	4.1	
Energy Research & Development	5,633,186,000	667,859,912	11.9	15,492,088	0.3	64,468,500
Federal Energy	88,204,000	22,409,956	25.4	298,044	0.3	
General Services	2,209,485,000	887,918,878	40.2	45,054,104	2.0	
National Aeronautics & Space	3,661,554,000	755,849,795	20.6	49,854,205	1.4	
Small Business Administration	12,789,000	1,192,279	9.3	5,721,721	44.7	
Veterans	1,823,876,000	857,751,718	47.0	44,261,282	2.4	
<u>Agencies</u>						
Action	17,595,000	6,912,323	39.3	711,677	4.0	
International Development	290,593,000	8,990,143	3.1	3,261,857	1.1	
Environmental Protection	267,686,000	72,572,188	27.1	18,237,812	6.8	
United States Information	34,258,000	19,941,253	58.2	35,747	0.1	
<u>Commissions</u>						
Federal Communications	5,425,000	4,398,000	81.1	n.a.	-	
Federal Power	4,284,000	449,000	10.5	n.a.	-	
Federal Trade	6,485,000	1,785,000	27.5	n.a.	-	
Interstate Commerce	4,460,000	2,261,000	50.7	n.a.	-	
United States Civil Service	8,563,000	4,307,686	50.3	265,314	3.1	
<u>Other Independent Establishment</u>						
National Science Foundation	149,612,000	6,771,000	4.5	n.a.	-	
Selective Service	905,000	641,000	70.1	n.a.	-	
Smithsonian Institute	47,982,000	29,225,545	60.9	24,455	0.1	
Tennessee Valley Authority	2,036,956,000	314,087,000	15.4	n.a.	-	

TABLE 2-7

GOVERNMENT AGENCY PROCUREMENTS (FY76 AND TRANSITION QUARTER)

3. SURVEY METHODOLOGY

3.1 Survey of Solar Energy Procurement

This report of Solar Energy procurement activities is based on data derived from a telephone survey, conducted in February 1977, of contractors listed in the Special Monthly Report for Solar Energy, dated November 30, 1976. This data has been augmented with additional data derived from the above listing for FY76 and the TQ, ERDA files, laboratory letter responses, and other related sources to produce the information as presented by this report.

The survey commenced with the design of a data collection form (Ref. Appendix A). This form was provided spaces to enter the various information required to produce the needed survey results. Pertinent data relative to each contractor, listed in the Special Monthly Report for Solar Energy, was transferred to individual survey forms. The resulting set of survey forms was divided and assigned to individuals of a survey team formed to accomplish the actual survey task.

Each survey team member tracked down the contract manager, or other cognizant party, for each contract by requesting information from long-distance telephone operators and contractor switchboard operators. Upon establishing contact with the contract manager, a series of questions was asked and the contract manager was requested to provide the requested information or, if the information was not immediately available, to assemble it and furnish it during a followup telephone contact.

Data received from contractors was transcribed onto the appropriate survey forms as the telephone interviews progressed. If contracting officers did not know the definition of small business, the definition included in Appendix B (derived from SBA Rules and Regulations, Part 121) was used as a guideline. At the conclusion of the telephone survey all forms were assembled, organized, and tabulated to derive the information provided in this report.

During the survey period, over 411 long distance telephone calls and additional local calls were made in the process of collecting information from 343 of the 366 prime contractors listed in the Special Monthly Report. Those who, for various reasons, did not respond to the telephone inquiries are listed in Appendix C.

3.2 Survey of Federal Government Procurement

The information provided in Figure 1-4 and Tables 2-5, 2-6, and 2-7 was derived from the Government Services Administration and Small Business Administration Reports and other sources as indicated below:

- a. Procurement By Civilian Executive Agencies, Part I - Total Prime Procurement and Part II - Statistics on Selected Types of Procurement, Period July 1, 1975 - June 30, 1976 (GSA-Wash DC77-352)
- b. Procurement By Civilian Executive Agencies, Part I - Total Prime Procurement and Part II - Statistics on Selected Types of Procurement, Period July 1, 1976 - September 30, 1976 (GSA-WashDC77-2156)
- c. Summary of Federal Funding for Minority Business Development, Table for Fiscal Year 1976 and Table for FY76 Transition Quarter (SBA)
- d. Telephone conversations with GSA, DOD and other governmental activities.

The above GSA documents, Procurement By Civilian Executive Agencies, are derived from compilations of Forms 37 submitted to GSA. These documents list: total procurements, percent of total, and statistics on selected types of procurement. The above SBA documents include a summary of Federal funding for Minority Business Development. It was assumed that minority business are small business and are therefore included in the GSA listings (a) and (b) above. The total small business shown in Tables 2-5, 2-6, and 2-7 is derived by subtracting minority business dollars as listed in (c) above (not including loans and grants) from Small Business as listed in (a) and (b) above.

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APPENDIX A

SAMPLE SURVEY FORMS

TechMatics Corporation - TMC

SURVEY FORM

Florida Solar Energy		EX-76-C-01-2395	06/30/76	INSTALL A SOLAR HEATING AND COOLING SYSTEM TO SUPPORT THE REQUIREMENTS OF THE FLORIDA I-95 VISITORS CENTER BUILDING	
FEDERAL STATE OF CAPE CANAVERAL FLORIDA		WA2 EDUCATIONAL	06/25/78 280,000 ✓		
Contact Name (Prime Contract)	Title		Phone	677-3555 305-783-0300	Ext.
Mr. Hancock [REDACTED]	Res. Engr.				
Name and Address (Subcontract) Roy Turknett Assoc Jacksonville, Fla.	Contact Name & Title Roy Turknett		Type of Company	Basis of Award	
	Phone 904-781-4818	Ext.	<input checked="" type="checkbox"/> Small Business <input type="checkbox"/> Minority <input type="checkbox"/> Other (define)	<input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Sole Source	Type of Award
Subcontract/Purchase Order No.				<input checked="" type="checkbox"/> Fixed Price <input type="checkbox"/> Cost Reimbursable	
Date of Award (1 July 75 ~ 30 Sept. 76) 29 June 76	Date Complete (Est.)		Contract Amount \$ 19,000	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.	
Description of Work: Engineering, detailed design					
Notes:					
Surveyor Pat Norfolk	Date of Contact 2/4/77		Sheet 1	of 1	Code

UNITED CARBIDE CORP
TENAWANCA
NEW YORKEX-76-C-01-2448
WA2
BIG BUSINESS06/30/76
06/30/77
425,648
0STUDY OF OCEAN THERMAL ENERGY CONSERVATION HEAT
EXCHANGERS

Contact Name (Prime Contract) <i>A.M. Czikk</i>	Title <i>Supervisor, Principle Inves.</i>	Phone <i>716-877-1600</i>	Ext. 8121 ████████
--	--	------------------------------	----------------------------------

Name and Address (Subcontract) <i>Slagel Mfg. Co. of Tulsa, Oklahoma</i>	Contact Name & Title <i>Mr. Philip McKee</i>	Type of Company	Basis of Award
	Phone <i>918-584-2434</i>	Ext.	<input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Sole Source
	Subcontract/Purchase Order No. <i>P.O. #825-99466</i>		<input checked="" type="checkbox"/> Small Business <input type="checkbox"/> Minority <input type="checkbox"/> Other (define)
Date of Award (1 July 75 - 30 Sept. 76) <i>Jan. 26, 77</i>	Date Complete (Est.)	Contract Amount <i>\$ 29,000</i>	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.

17

Description of Work:

Notes:

Surveyor <i>Pat Norfolk</i>	Date of Contact <i>2/7/77</i>	Sheet of <i>1 / 1</i>	Code
--------------------------------	----------------------------------	--------------------------	------

NATIONAL SCIENCE FOUND
WASHINGTON
DISTRICT OF COLUMBIA

EX-76-4-29-1039
WA9
GOVERNMENT

03/05/76
12/31/99
23,300

TC PERMIT THE AMERICAN SOCIETY OF INTERNATIONAL
HOW TO SPONSER A WORKSHOP CONCERNED WITH LEGAL ASPECTS OF OCEAN THERMAL ENERGY CONVERSION

Mr. Zeffris 632-5950

2200

Contact Name (Prime Contract) Theina Weithorn	Title 634-6260 376-4490 Barry Browne	Phone 655-4000 (301) 233-4000 558-5872	Ext. 5526 334
--	---	---	------------------

Name and Address (Subcontract) No Subcontracts	Contact Name & Title	Type of Company	Basis of Award
	Phone	<input type="checkbox"/> Small Business <input type="checkbox"/> Minority <input type="checkbox"/> Other (define)	<input type="checkbox"/> Competitive <input type="checkbox"/> Sole Source
	Ext.		
	Subcontract/Purchase Order No.		Type of Award
			<input type="checkbox"/> Fixed Price <input type="checkbox"/> Cost Reimbursable
Date of Award (1 July 75 - 30 Sept. 76)	Date Complete (Est.)	Contract Amount	<input type="checkbox"/> Actual <input type="checkbox"/> Est.
		\$	

8

Description of Work:

Notes:

will call back

This is not a contract -
Transfer of funds - not-for-profit.

Surveyor Linda Swift	Date of Contact 7/14/77	Sheet of	Code
-------------------------	----------------------------	----------	------

LEESBURG SCHOOL
LEESBURG
VIRGINIAEX-76-C-01-2381
WA2
CFFR06/30/76
07/06/81
56,336

SCLAR HOT WATER HEATING DEMONSTRATION PROJECT

Contact Name (Prime Contract) <i>Mrs. Lewis R. Bridges</i>	Title <i>Supervisor of Construction</i>	Phone <i>703 777-4142 800 777-2570</i>	Ext.
---	--	---	------

Name and Address (Subcontract) <i>L.F. Thomas Inc Falls Church, VA.</i>	Contact Name & Title <i>Larry Thomas</i>	Type of Company <input checked="" type="checkbox"/> Small Business <input type="checkbox"/> Minority <input type="checkbox"/> Other (define)	Basis of Award <input type="checkbox"/> Competitive <input checked="" type="checkbox"/> Sole Source
	Phone <i>241-1200</i>	Ext.	Type of Award <input checked="" type="checkbox"/> Fixed Price <input type="checkbox"/> Cost Reimbursable
	Subcontract/Purchase Order No. <i>E(49-14)2381</i>		
Date of Award (1 July 75 - 30 Sept. 76) <i>12/7/76</i>	Date Complete (Est.)	Contract Amount <i>\$ 56,336</i>	<input checked="" type="checkbox"/> Actual <input type="checkbox"/> Est.

19

Description of Work:

Notes:

*GOT AUTO: some plumbing, etc will go
LOT TO OTHER SMALL BUSINESSES*

Surveyor <i>Leesbury</i>	Date of Contact <i>12/7/76</i>	Sheet of	Code
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TechMatics Corporation - TMC

SURVEY FORM

CLARK UNIVERSITY WORCESTER MASSACHUSETTS	EX-76-S-01-2523 WAZ EDUCATIONAL	09/01/76 12/31/76 57,622 ✓	STUDY FOR ADVANCED TECHNOLOGY IN SOLAR CONVERSIO N AND UTILIZATION
Contact Name (Prime Contract) DEAN FRANK JEFFERSON	Title PROF. (PRINCIPAL INVESTIGATOR ON PROJECT BUSINESS OR	Phone Home 435-4225 7181 617-793-7711	Ext.
Name and Address (Subcontract) TOTAL ENVIRONMENTAL ACTION, INC 1. CHURCH HILL HARRISVILLE, NEW HAMPSHIRE 03450	Contact Name & Title PAUL SULLIVAN Phone 603-827-3374	Type of Company <input checked="" type="checkbox"/> Small Business <input type="checkbox"/> Minority <input type="checkbox"/> Other (define)	Basis of Award <input type="checkbox"/> Competitive <input checked="" type="checkbox"/> Sole Source
Date of Award (1 July 75 - 30 Sept. 76) SEPT 1 1976	Date Complete (Est.) DEC 31 1976	Subcontract/Purchase Order No. 178-042/14-92523-01	Type of Award <input checked="" type="checkbox"/> Fixed Price <input type="checkbox"/> Cost Reimbursable
Description of Work: STUDY		Contract Amount \$ 25,000	<input type="checkbox"/> Actual <input checked="" type="checkbox"/> Est.
Notes: PROF. S. FELDMAN PRINCIPAL INVESTIGATOR IN CALIF CONTRACTOR → BRUCE ANDERSON 603 827 3374 HARRISVILLE NEW HAMPSHIRE TOTAL ENVIRONMENTAL ACTION Call 3:00			
Surveyor MICHAEL	Date of Contact 2-3-77	Sheet 1 of 1	Code

APPENDIX B

SMALL BUSINESS DEFINITION

A concern organized for profit qualifies as a small business if it meets the following criteria, even though it may be owned or controlled by a non-profit entity of any size.

If a concern does not fit an industry classification in the following listing, it is to be considered small business if its number of employees is 500 or less:

<u>INDUSTRY</u>	<u>THREE YEAR AVG. ANNUAL RECEIPTS</u>	<u>NO. EMPLOYEES</u>
Construction -----	\$9.5 million	
Dredging -----	\$5 million	
Machinery (rebuilding or repairing) -----	500	
Concrete and stone manufacturing -----	750	
Fabricated metal products -----	500	
Machinery (except electrical)		
a. Farm -----	500	
b. Construction -----	750	
c. Pumps -----	500	
d. Air conditioning and heating -----	750	
Electrical machinery		
a. Power distribution -----	750	
b. Motors and generators -----	1000	
c. Industrial controls -----	750	
d. Other elec. industrial -----	500	
Transportation Equipment		
a. Motor vehicles -----	1000	
b. Parts and accessories -----	500	
c. Truck trailers -----	500	
d. Railroad equipment -----	750	
e. Tanks and components -----	1000	
Measuring, Control, etc. Instruments -----	500	
Engineering (other than marine) -----	\$7.5 million	
Custodial services -----	\$4.5 million	
Computer services -----	\$4 million	
Hospitals -----	150 beds (excl. cribs, etc.)	
Grain storage -----	1 mil. bushels & \$1.5 million	
Trade contractors -----	\$5 million	
Food franchises -----	\$1 million	

Source: SBA Rules and Regulations, Part 121

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APPENDIX C
LIST OF TELEPHONE SURVEY NON-RESPONDERS

During the telephone survey, various prime contractors, who had active contracts during FY76 and the TQ, could not be contacted or otherwise failed or refused to supply the requested information to the survey team in respect to SB/MBE subcontracts. The following list, arranged by non-responder category, provides the contract number, contractor, award and estimated completion date, and contract value.

a. The following agreed to respond to letter inquiries only (NOTE: letters have been sent) ** Replies received and included in tabulations.

<u>Contract No.</u>	<u>Contractor</u>	<u>Award Date</u>	<u>Est. Complete Date</u>	<u>Value</u>
EY-76-S-02-2971	Wisconsin Univ.	6/1/76	5/31/77	\$ 70,360
EY-76-S-02-2588	" "	2/1/75	1/31/77	303,325
EY-76-C-01-2546	Sambo's Restaurant	9/30/76	9/29/79	227,522
EY-76-C-05-5018	Georgia Inst. of Tech.	1/1/76	7/31/77	**
EY-76-S-05-4970	" " "	7/1/76	12/31/76	157,386
EY-76-S-05-4942	" " "	6/1/75	3/31/77	726,904
EY-77-C-06-2439	" " "	5/1/76	4/30/77	82,047
EY-76-C-02-2919	Owens Illinois Inc.	7/1/76	2/28/77	111,232
EY-76-C-10-3848	Chas. M. Maltbie Assoc.	2/18/76	11/22/76	195,776
EY-76-C-01-2293	Stone & Webster	4/5/76	1/4/71	**
EY-76 S-05-4941	Miami University	6/1/75	5/31/77	224,652
EY-76-C-02-2731	Somerset Co. Park	6/1/75	5/31/76	**
				\$2,098,204

b. The following stated they would reply only to a direct contact from ERDA.

EY-76-C-03-1300	Boeing Company	7/1/76	12/31/76	\$ 73,584
EY-76-C-63-1111	" "	6/18/75	9/30/77	897,000
EY-76-C-01-2459	" "	6/18/75	7/17/77	77,502
EY-76-S-02-4076	Columbia University	9/1/76	8/31/77	88,146
				\$1,136,232

c. The following did not respond to repeated telephone messages.

<u>Contract No.</u>	<u>Contractor</u>	<u>Award Date</u>	<u>Est. Complete Date</u>	<u>Value</u>
EY-76-C-02-2939	Toronto Univ.	7/1/76	6/30/77	\$ 67,130
EY-76-C-03-1108	McDonnell-Douglas	6/13/75	6/20/77	4,643,031
EY-76-C-03-1132	" "	9/15/75	3/31/77	<u>294,000</u>
				\$5,004,161

d. The following refused to supply information.

EY-76-S-05-4921	Georgia Tech. Res.	4/1/75	10/31/76	\$ 279,937
EY-76-C-01-1402	Flamboyant Invest.	4/15/76	7/6/81	411,447
EY-76-C-03-1246	FMC Corp.	4/15/76	2/15/77	<u>243,333</u>
				\$ 934,717

e. The following stated that they do not have listed contracts with Solar Energy Division, ERDA.

EY-76-S-03-0235	Hawaii Univ.	6/2/75	9/30/76	\$ 35,879
EY-76-C-02-2770	Waste Management	6/23/75	7/31/77	<u>1,720,000</u>
				\$1,755,879

f. The following had telephone disconnected or were not listed.

EY-76-C-03-1255	Biphase Engines	3/1/76	1/31/77	\$ 202,039
EY-76-C-06-2441	Aerovironment Corp.	6/76	6/77	<u>159,040</u>
				\$ 361,079
		PRIME CONTRACTOR	TOTAL	\$6,786.272

g. Sandia Laboratories indicated, by letter dated July 16, 1976 in response to a Division of Solar Energy request and to a telephone response February 14, 1977, that their current computer system could not break out SB/MBE participation in their Solar Energy Subcontracting. Sandia represents \$13,190,000 which has been extrapolated in respect to other laboratories to arrive at Laboratory Subcontracting to SB/MBE as indicated in Table 2-3.

APPENDIX D

CHANGES TO SPECIAL MONTHLY REPORT
AS A RESULT OF THE TELEPHONE SURVEY

1) Computer listed Atlas Corp. as Other - Should be Small Business	\$ 60,085
2) Listed a contract to Dept. of Defense Actually went to Johns Hopkins - Big Business Applied Physics Lab - EX-76-A-29-1030	\$169,400
3) Listed Batelle Memorial Inst. as Other Should be Big Business W-7405-ENG-92 093	\$ 64,000
4) Dynatech Corp. listed as Big Business Should be Small Business EY-76-C-02-2991	\$162,902
5) F.W.G. Assoc. listed as Big Business Should be Small Business EY-77-C-06-2443	\$ 93,357
6) Hydronautics Corp. listed as Big Business Should be Small Business EX-76-C-01-2348	\$127,060
7) Poseidon Research listed as Big Business Should be Small Business EY-77-C-06-2444	\$ 86,107
8) Rademaker Corp. listed as Big Business Should be Small Business EX-76-C-01-2384	\$ 20,129
9) R.K.S. Corp. listed as Other should be Small Business EX-76-C-01-2397	\$576,091
10) Wright Malta Corp. listed as Big Business Should be Small Business EY-76-C-02-4124	\$ 68,088