THE ORKAND CORPORATION

SILVER SPRING, MARYLAND

SOLARSIM OPERATIONS MANUAL

MASTER

July 27, 1977

Prepared for:
Mr. Howard L. Walton
Technical Project Officer
Office of Energy Information & Analysis
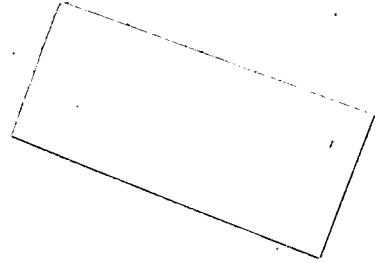Federal Energy Administration
Washington, D.C. 20461

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THE ORKAND CORPORATION

TR-77W-061

SOLARSIM OPERATIONS MANUAL

July 27, 1977

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Washington, D.C.   20461

P.O. P-05-77-4575-1

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I. GENERAL INFORMATION

SUMMARY

SOLARSIM is a quantitative computer model which calculates, on a regional and national basis, domestic water and domestic space and water heating loads for single family detached dwellings. SOLARSIM is also capable of performing life-cycle cost analyses of solar space and water heating systems of various levels of intricacy. The main function of SOLARSIM, a solar energy financial incentive model for the applications of solar water heating and solar space and water heating, is to estimate the impacts of different economic and financial incentive scenarios designed to accelerate the market penetration of solar energy heating systems.

ENVIRONMENT

Software Sponsor -   Federal Energy Administrator
Office of Energy Information and Analysis
Nuclear and New Technologies Analysis
  Division

Developer -   The Orkand Corporation
8630 Fenton Street, Suite 938
Silver Spring, Maryland 20910

User Organization -   Office of Energy Information and Analysis
Nuclear and New Technologies Analysis
  Division

Computer Center -   Optimum Systems, Inc. (OSI)
Rockville, Maryland

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II. OVERVIEW

SOFTWARE ORGANIZATION

Exhibit II-1 on the following page presents a diagram showing the inputs, outputs and data files of the SOLARSIM solar energy model. This general overview provides a macro level flowchart depicting the major SOLARSIM routines and processes and how they are logically associated with the other major SOLARSIM routines and processes. Associated exhibits are provided to further explain the model.

A Summary Matrix of SOLARSIM Model Components is provided in Exhibit II-2. This matrix briefly describes the major SOLARSIM components as depicted in the SOLARSIM overview exhibit.

Exhibit II-3 presents a table of the user specified input parameters to SOLARSIM. These parameters must be determined and specified by the user before exercising the model. If user parameters are not specified, the default values shown in Exhibit II-3 are used.

FILE INVENTORY

All files used in association with the SOLARSIM model are located on direct access system devices (disk). Specifically, they are all on IBM 3350-Disks. The table below lists all the SOLARSIM associated files by their data set names and disk volume locations:

DSN	Volume
CN6231.KW3.SOLAR.SIM	FEA011
CN6231.KW3.FCHART2.DATA	FEA011
CN6231.KW3.INPUT.SIMUL	FEA009
CN6231.KW3.HOUSE.DATA	FEA009

Exhibit II-1

SOLARSIM Model Overview
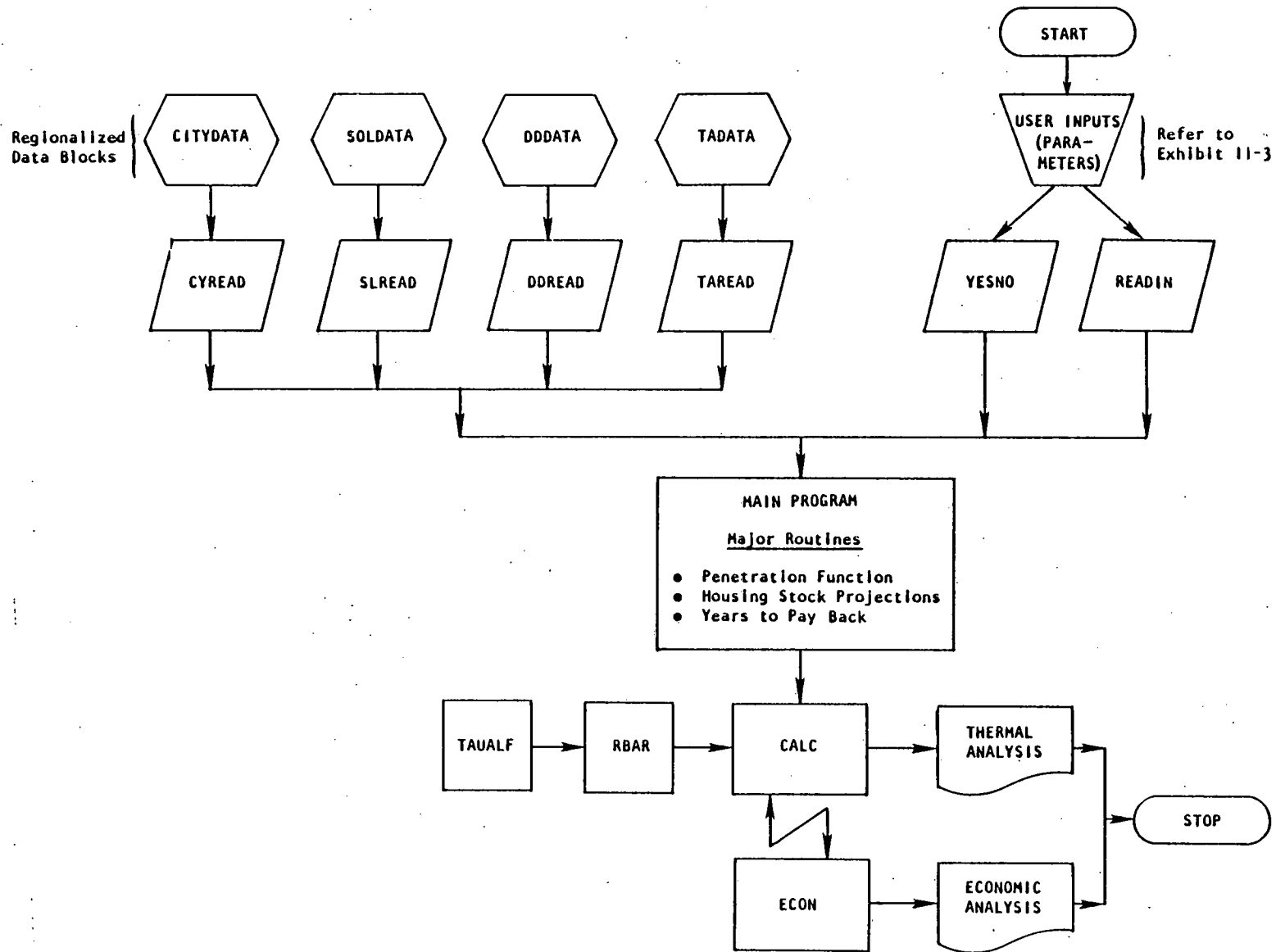
Exhibit II-2

Summary Matrix of SOLARSIM Model Components

COMPONENTS	DESCRIPTION
1. MAIN Program	A central program logic controller
2. Subroutines	
2a. CALC	Performs thermal analysis
2b. ECON	Performs economic analysis
2c. YESNO	Accepts user specified paramters
2d. READIN	Reads user supplied inputs and returns values to the MAIN program
2e. CYREAD	Reads city and latitude data for 126 cities and 10 regions
2f. SLREAD	Reads monthly long-term average total solar radiation for 126 cities and 10 regions
2g. DDREAD	Reads monthly long-term average degree-days for 126 cities and 10 regions
2h. TAREAD	Reads monthly long-term average ambient temperatures for 126 cities and 10 regions
3. Functions	
3a. RBAR	Calculates ratio of daily extraterrestrial Radiation incidence of a tilted surface
3b. TAUALF	Calculates transmittance-absorptance product
3c. XPENT	Calculates market penetration from Years to Payback
4. Data Blocks	
4a. CITYDATA	Contains name and latitude of 126 cities and 10 regions
4b. SOLDATA	Contains monthly long-term average solar radiation data for 126 cities and 10 regions
4c. DDATA	Contains long-term average degree-days for 126 cities and 10 regions
4d. TADATA	Contains monthly long-term average ambient temperatures for 126 cities and 10 regions

Exhibit II-3

Table of User Specified SOLARSIM Input Variables

CODE	VARIABLE DESCRIPTION	VALUE	UNITS
1	AIR SYSTEM=1,LIQUID SYSTEM=2..................	2.00	
2	COLLECTOR AREA...............................	538.20	FT2
3	FRPRIME-TAU-ALPHA PRODUCT(NORMAL INCIDENCE)..	0.70	
4	FRPRIME-UL PRODUCT...........................	0.83	BTU/H-F-F2
5	NUMBER OF TRANSPARENT COVERS.................	2.00	
6	COLLECTOR SLOPE INCREMENT....................	0.0	DEGREES
7	AZIMUTH ANGLE (E.G. SOUTH=0, WEST=90)........	0.0	DEGREES
8	STORAGE CAPACITY.............................	15.00	BTU/F-FT2
9	EFFECTIVE BUILDING UA........................	526.60	BTU/HR-F
10	CONSTANT DAILY BLDG HEAT GENERATION..........	0.0	BTU/DAY
11	HOT WATER USAGE..............................	79.20	GAL/DAY
12	WATER SET TEMPERATURE........................	140.00	F
13	WATER MAIN TEMPERATURE.......................	51.80	F
14	CITY CALL NUMBER.............................	62.00	
15	THERMAL PRINT OUT BY MONTH=1, BY YEAR=2......	2.00	
16	ECONOMIC ANALYSIS? YES=1, NO=2...............	1.00	
17	USE OPTMZD. COLLECTOR AREA=1, SPECFD. AREA=2.	2.00	
18	PERIOD OF THE ECONOMIC ANALYSIS..............	20.00	YEARS
19	COLLECTOR AREA DEPENDENT SYSTEM COSTS........	10.00	$/FT2 COLL
20	CONSTANT SOLAR COSTS.........................	1000.00	$
21	DOWN PAYMENT(% OF ORIGINAL INVESTMENT).......	0.0	%
22	ANNUAL INTEREST RATE ON MORTGAGE.............	8.00	%
23	TERM OF MORTGAGE.............................	20.00	YEARS
24	ANNUAL NOMINAL(MARKET) DISCOUNT RATE.........	8.00	%
25	EXPENSES(INSUR.,MAINT.) OF SYSTEM IN 1ST YEAR	0.0	$
26	ANNUAL % INCREASE IN ABOVE EXPENSES..........	6.00	%
27	PRESENT COST OF AUXILIARY FUEL (CF)..........	6.00	$/MBTU
28	CF RISE' LINEAR=1,%/YR=2,SEQ. OF VALUES=3....	2.00	
29	IF 1, WHAT IS THE SLOPE OF CF INCREASE?......	0.0	$/MBTU-YR
30	IF 2, WHAT IS THE ANNUAL RATE OF CF RISE.....	10.00	%
31	ECONOMIC PRINT OUT BY YEAR=1, CUMULATIVE=2...	2.00	
32	EFFECTIVE FEDERAL-STATE INCOME TAX RATE......	0.0	%
33	TRUE PROP. TAX RATE PER $ OF ORGINAL INVEST..	0.0	%
34	INCOME PRODUCING BUILDING? YES=1,NO=2........	1.00	
35	DPRC.' STR.LN=1,DC.BAL.=2,SM-YR-DGT=3,NONE=4.	4.00	
36	IF 2, WHAT % OF STR.LN DPRC.RT.IS DESIRED?...	150.00	%
37	USEFUL LIFE FOR DEPREC. PURPOSES.............	20.00	YEARS
38	SALVAGE VALUE AT END OF DEPREC. PERIOD.......	0.0	$

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III. DESCRIPTION OF RUNS

RUN INVENTORY

There are four (4) basic versions of the SOLARSIM solar energy computer model. Specifically, they are:

- Base Case
- Incentive I
- Incentive II
- Incentive III

Each version represents a run for a specific type of tax incentive geared towards the market penetration of solar energy systems. By varying the specified input parameters associated with each run of the SOLARSIM model, any number of combinations of runs can be accomplished for each version. Each of the four versions of the SOLARSIM solar energy model are discussed in the following paragraphs.

Base Case

The Base Case run of the SOLARSIM solar energy model is the version which contains no financial incentives (i.e., no tax deductions). When comparing results of the various SOLARSIM model versions the Base Case is the initial comparison situation.

Incentive I

The first tax incentive consists of a 40% tax deduction on the first $1,000 spent on a solar energy system and a 25% tax deduction on the next $6,400 spent on the solar energy system over an eight (8) year period. The purpose of this version is to provide estimates for solar energy market penetration given the above financial incentive scenario.

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Incentive II

    The second tax incentive consists of a 40% tax deduction on the first $1,000 spent on a solar energy water heating or space and water heating system and a 25% tax deduction on the next $6,400 spent on the system over a three (3) year period, or a 30% tax deduction on the first $1,000 spent on a solar energy system and a 20% tax deduction on the next $6,400 for the next two (2) years, or a 25% tax deduction on the first $1,000 spent and a 15% tax deduction on the next $6,400 spent for the next three years. The purpose of this version, as with all the incentive versions, is to provide estimates for solar energy market penetration under a specified scenario of tax incentives.

Incentive III

    The third tax incentive consists of a 20% tax deduction for the first $1,000 spent on a solar energy system for a five (5) year period. The purpose of this version of the SOLARSIM solar energy model is to provide estimates for solar energy market penetration under this tax incentive scenario.

RUN DESCRIPTION

Control Inputs

    The job control language needed to execute the solar simulation is listed below. This JCL is attached to the SOLARSIM model source code. Refer to the SOLARSIM Program Binder for this listing. The JCL needed to execute the SOLARSIM model is as follows:

```
//IIIUSOL JOB (6231,BIN,1,9),NAME
//FCHART EXEC FORTGCLG,TIME=(3,10),REGION.GO=220K
//FORT.SYSIN DD *

          SOLAR SIMULATION PROGRAM

/*
//LKED.STEPLIB DD DSN=SYS2.SYSLIB,DISP=SHR
//GO.FT01F001 DD SYSOUT=A
//GO.FT03F001 DD DSN=CN6231.KW3.FCHART2.DATA,VOL=SER=FEA011,
//    DISP=SHR,UNIT=DASD
```

```
//GO.FT04F001 DD DUMMY
//GO.SYSIN DD DSN=CN6231.KW3.INPUT.SIMUL,
//   DISP=SHR,VOL=SER=FEA009,
//   UNIT=DASD
//GO.FT08F001 DD DUMMY
//GO.FT09F001 DD DUMMY
//GO.FT10F001 DD DSN=CN6231.KW3.HOUSE.DATA,DISP=SHR,UNIT=DASD
//GO.FT11F001 DD SYSOUT=A
//GO.FT19F001 DD SYSOUT=A
```

Operating Information

The solar simulation needs approximately 3 minutes of CPU time to execute of which only 10-12 seconds are for compiling and linking. The simulation executes in a region of 220K. The output for a 14 year simulation, in total, will be less than 9,000 lines.

Input/Output Files

The solar simulation model has several input files and several output reports. All input files reside on disk. The input files are input through the FORTRAN logical units 3, 5 (SYSIN), and 10. The output reports are on logical units 1, 4, 8, 9, 11 and 19. Table III-1, on the following page, describes the input or output for each of the logical units. Note that units 4, 8 and 9 are usually set to "DUMMY" since the contents of these output reports are usually not needed.

Table III-1

SOLARSIM Logical I/O Units

Logical Unit	Input/Output	Content
1	Output	Solar Simulation Report
3	Input	FCHART Data
4	Output	FCHART listing of parameters
5 (SYSIN)	Input	Input Data
8	Output	Interactive Prompts
9	Output	FCHART listing of parameters
10	Input	Housing Data
11	Output	Economic Statistics
19	Output	Collector Cost/year

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Output Reports

Examples of the solar simulation output reports are contained
in Exhibits III-1, 2, and 3. Exhibit III-1 shows typical
simulation results for a particular region (FEA Regions 1-10).
Exhibit III-2 shows typical results for the nation and Exhibit
III-3 shows a summary of regional and national statistics.

SUPERWYLBUR

The text editing system SUPERWYLBUR is used to submit jobs to
the Job Entry System and execute the program. SUPERWYLBUR is
also used to fetch the model output reports.

Exhibit III-1

NATIONAL SIMULATION OF SOLAR ENERGY COMMERCIALIZATION
                                    FEDERAL ENERGY ADMINISTRATION

                        S I N G L E   F A M I L Y   E L E C T R I C   H O U S E S

                              BASE CASE -- NO FINANCIAL INCENTIVES

REGION: 1   S P A C E   A N D   W A T E R   H E A T I N G

YEAR	PERCENT RETROFIT	CUM. SOLAR UNITS (X1000)	# SOLAR UNITS (X1000)	TOTAL AVAIL. UNITS (X1000)	CUM. COLL. AREA(FT2) (X10**6)	TOT. COLL. AREA(FT2) (X10**6)	TOT. YRLY LOAD(BTUS) (X10**12)	YRLY DISCNTD FUEL SVD($) (X10**6)	YRLY BTUS SAVED (X10**12)
1977	80.6	2.065	2.065	129.93	0.440	0.440	20.335	1.114	76.86
1978	84.1	4.905	2.840	146.23	1.074	0.634	22.805	2.548	186.39
1979	86.0	7.956	3.052	162.49	1.796	0.722	25.140	3.985	308.99
1980	85.6	11.262	3.305	181.39	2.671	0.876	27.865	5.513	453.05
1981	86.3	14.823	3.561	200.92	3.710	1.039	30.685	7.110	619.28
1982	86.9	18.629	3.806	221.17	4.928	1.217	33.613	8.760	808.66
1983	89.7	23.565	4.936	242.13	6.621	1.693	36.647	10.901	1066.66
1984	87.8	28.915	5.351	263.80	8.637	2.016	39.788	13.157	1364.48
1985	88.1	34.521	5.605	286.19	10.899	2.262	43.036	15.382	1690.85
1986	88.1	40.352	5.831	308.20	13.445	2.546	46.218	17.578	2048.02
1987	88.2	46.424	6.072	331.34	16.302	2.857	49.567	19.742	2437.95
1988	88.2	54.467	8.043	355.60	20.358	4.056	53.085	22.745	2977.06
1989	88.2	62.736	8.269	380.99	24.817	4.459	56.770	25.621	3554.37
1990	88.2	71.236	8.500	407.27	29.704	4.887	60.590	28.365	4170.87
TOTAL	87.5	71.236	71.236	407.27	29.704	29.704	546.145	182.522	21763.49

REGION: 1   D O M E S T I C   W A T E R   H E A T I N G

YEAR	PERCENT RETROFIT	CUM. SOLAR UNITS (X1000)	# SOLAR UNITS (X1000)	TOTAL AVAIL. UNITS (X1000)	CUM. COLL. AREA(FT2) (X10**6)	TOT. COLL. AREA(FT2) (X10**6)	TOT. YRLY LOAD(BTUS) (X10**12)	YRLY DISCNTD FUEL SVD($) (X10**6)	YRLY BTUS SAVED (X10**12)
1977	93.6	11.357	11.357	702.72	0.466	0.466	10.772	1.230	84.86
1978	95.2	25.164	13.807	706.63	1.031	0.565	10.832	2.567	187.73
1979	94.3	38.859	13.695	710.08	1.616	0.585	10.885	3.780	293.04
1980	93.6	52.397	13.537	718.30	2.239	0.623	11.011	4.900	402.69
1981	94.6	68.926	16.529	728.40	3.048	0.809	11.166	6.229	542.51
1982	92.9	85.505	16.579	740.45	3.909	0.861	11.351	7.457	688.36
1983	92.7	101.901	16.397	754.42	4.801	0.892	11.565	8.554	837.03
1984	94.0	122.364	20.463	770.28	5.978	1.177	11.808	9.925	1029.34
1985	92.3	142.875	20.511	788.01	7.213	1.236	12.080	11.168	1227.58
1986	92.0	162.944	20.068	800.29	8.471	1.258	12.268	12.241	1426.17
1987	93.2	187.166	24.222	814.92	10.048	1.577	12.492	13.534	1671.32
1988	91.6	211.108	23.942	831.82	11.687	1.639	12.751	14.673	1920.50
1989	89.2	234.875	23.767	850.91	13.371	1.685	13.044	15.661	2172.64
1990	91.2	262.375	27.500	871.81	15.386	2.015	13.364	16.795	2469.60
TOTAL	92.7	262.375	262.375	871.81	15.386	15.386	165.391	128.713	14953.37

Exhibit III-2

S I N G L E   F A M I L Y   E L E C T R I C   H O U S E S

BASE CASE - - NO FINANCIAL INCENTIVES

N A T I O N A L   S U M M A R Y

YEAR	PERCENT RETROFIT	CUM. SOLAR UNITS (X1000)	# SOLAR UNITS (X1000)	TOTAL AVAIL. UNITS (X1000)	CUM. COLL. AREA(FT2) (X10**6)	TOT. COLL. AREA(FT2) (X10**6)	TOT. YRLY LOAD(BTUS) (X10**12)	YRLY DISCNTD FUEL SVD($) (X10**6)	YRLY BTUS SAVED (X10**12)
1977	89.0	191.239	191.239	9675.85	17.895	17.895	629.945	43.516	3844.92
1978	91.1	426.215	234.977	9911.84	39.587	21.692	671.085	91.551	8420.41
1979	91.8	684.422	258.207	10123.34	65.049	25.462	708.851	143.439	13674.43
1980	91.8	986.292	301.871	10412.73	96.069	31.020	753.976	200.803	19889.61
1981	91.7	1323.142	336.850	10676.79	132.316	36.247	798.093	262.565	26962.92
1982	91.8	1682.433	359.291	10969.00	173.540	41.223	844.484	325.580	34731.21
1983	91.9	2083.978	401.545	11288.24	221.714	48.174	893.080	392.855	43536.61
1984	91.2	2519.231	435.253	11633.48	279.076	57.362	943.819	465.781	53604.71
1985	91.3	2984.658	465.427	12003.73	342.528	63.451	996.640	538.132	64423.91
1986	90.5	3498.949	514.291	12351.54	416.490	73.962	1049.177	615.962	76615.12
1987	90.1	4054.133	555.183	12739.04	501.312	84.823	1105.373	697.212	90186.87
1988	89.8	4667.258	613.126	13165.09	601.397	100.085	1165.179	784.370	105641.94
1989	88.7	5294.141	626.884	13628.74	708.644	107.247	1228.555	867.783	121800.75
1990	88.0	5981.375	687.237	14122.91	830.982	122.339	1294.800	954.165	139719.94
TOTAL	90.4	5981.375	5981.367	14122.91	830.982	830.980	14740.434	6383.691	803052.75

AVE. S + W HEATING LOAD FOR 1977 IN MBTU/UNIT: 111.7   AVE. COLLECTOR AREA/UNIT FOR S + W :   329.0 FT2
AVE. S + W HEATING LOAD FOR 1990 IN MBTU/UNIT: 114.5   AVE. COLLECTOR AREA/UNIT FOR WATER :   59.8 FT2
AVERAGE MBTU SAVED/UNIT/YEAR FOR S + W HEATING: 51.6   AVE. MBTU SAVED/UNIT/YEAR FOR WATER :   11.6

	1980	1985	1990	1977-1990
PERCENT PENETRATION FOR SPACE AND WATER HEATING:	1.53	1.62	1.82	16.16
PERCENT PENETRATION FOR WATER HEATING :	2.00	2.76	3.46	29.91
PERCENT PENETRATION FOR S+W AND W HEATING :	2.90	3.88	4.87	42.35

DEFINITION OF OUTPUT:

PERCENT RETROFIT IS THE NUMBER OF OLD UNITS THAT INSTALLED SOLAR DIVIDED BY THE TOTAL # OF SOLAR UNITS.

NUMBER OF SOLAR UNITS IS THE NUMBER OF HOUSES(NEW OR RETROFIT) THAT INSTALLED SOLAR EQUIPMENT DURING THE YEAR.

TOTAL AVAILABLE UNITS IS THE TOTAL NUMBER OF HOUSES THAT EXIST IN THE YEAR INCLUDING SOLAR UNITS.

TOTAL COLLECTOR AREA IS THE TOTAL SQUARE FEET OF COLLECTORS THAT WERE INSTALLED DURING YEAR.

TOTAL YEARLY LOAD IS THE NUMBER OF MBTU THAT WERE USED DURING THE YEAR BY ALL UNITS.

YEARLY FUEL SAVED IS THE $ AMOUNT OF FUEL SAVED BY SOLAR UNITS DURING THE YEAR COMPUTED BY THE CURRENT PRICE OF FUEL/MBTU
TIMES # MBTU SAVED. THIS VALUE IS DISCOUNTED TO THE PRESENT VALUE.

YEARLY MBTU SAVED IS THE TOTAL MBTU SAVED BY ALL SOLAR UNITS DURING THE YEAR

Exhibit III-3

NATIONAL SIMULATION OF SOLAR ENERGY COMMERCIALIZATION
                        FEDERAL ENERGY ADMINISTRATION

                    S I N G L E   F A M I L Y   E L E C T R I C   H O U S E S

                    BASE CASE - - NO FINANCIAL INCENTIVES

                    R E G I O N A L   A N D   N A T I O N A L   S U M M A R Y

| REGION | AVERAGE LOAD(MBTU) | | COLLECTOR AREA(FT2) | | MBTU SAVED | |
	1977	1990	S+W	WATER	S+W	WATER
1	157.6	148.8	417.0	58.6	58.5	9.4
2	148.0	140.3	235.4	53.3	32.1	7.8
3	116.5	110.3	278.4	60.7	40.8	10.3
4	84.9	80.5	256.7	62.2	42.0	12.6
5	146.5	138.8	319.3	57.6	47.7	9.7
6	88.9	85.9	484.8	67.2	63.8	14.0
7	124.9	118.2	406.8	60.4	63.1	12.1
8	160.0	151.0	361.3	47.2	81.3	11.3
9	117.5	114.1	441.2	53.5	82.5	13.3
10	148.7	140.0	354.0	53.1	60.1	10.1
NATION	111.7	114.5	329.0	59.8	51.6	11.6

PERCENT MARKET PENETRATION

| REGION | SPACE AND WATER | | | | WATER ONLY | | | | TOTAL | | | |
	1980	1985	1990	77-90	1980	1985	1990	77-90	1980	1985	1990	77-90
1	1.82	1.96	2.09	17.49	1.88	2.60	3.15	30.10	2.34	3.31	4.13	38.27
2	1.84	2.01	2.20	16.93	1.90	2.08	2.78	22.32	2.75	3.24	4.21	33.38
3	1.49	1.62	1.70	15.47	1.87	2.07	3.25	25.04	2.62	3.10	4.50	36.46
4	1.49	1.59	2.00	16.50	1.51	2.58	4.14	28.96	2.59	3.87	5.92	43.57
5	1.52	1.70	1.85	13.65	1.52	2.11	2.94	20.10	2.28	3.26	4.39	30.83
6	1.43	1.31	1.50	19.19	2.95	5.30	5.10	62.17	3.95	6.25	6.23	76.56
7	1.49	1.61	2.07	15.35	1.90	2.65	4.26	30.67	2.59	3.68	5.81	42.18
8	1.83	1.93	2.10	19.30	1.86	2.51	3.06	23.10	3.28	4.15	4.94	40.38
9	2.10	1.84	1.04	27.93	4.08	5.03	3.01	66.80	5.53	6.30	3.74	86.49
10	0.50	1.12	1.35	8.77	0.52	1.14	2.12	10.99	0.91	2.12	3.38	19.17
NATION	1.53	1.62	1.82	16.16	2.00	2.76	3.46	29.91	2.90	3.88	4.87	42.35

III-7

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IV. REMOTE OPERATIONS

SOLARSIM MODEL EXECUTION

Execution of the SOLARSIM solar energy model is accomplished by the use of a remote batch terminal utilizing the SUPERWYLBUR text editing system.

To execute the model, enter the following SUPERWYLBUR commands:

- USE FROM &6231KW3.SOLAR.SIM ON FEA011 CLR
- CH 'KW3' TO 'III' IN 1
- CH '6231' TO 'NNNN' IN 1

where, III is the user's initials, and
    NNNN is the user's account number.

RUN HOLD

In order to execute the model, enter the SUPERWYLBUR command, RUN HOLD. This command will cause a job number to return to the terminal. This is the number used in "fetching" (referencing) model outputs at the terminal.

EDITING

SUPERWYLBUR can also be used as a text editor to update or modify any of the SOLARSIM input data sets or the solar simulation program source code. To bring the program data set into the SUPERWYLBUR working storage so that it can be edited, enter:

- USE FROM &6231KW3.DSN ON FEA### CLR

where DSN is the data set name and ### is volume location.

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The user may then proceed to use any of the SUPERWYLBUR editing commands. After changes are completed, enter:

- RESAVE, or
- SAVE (CARD) INTO NEW-DSN ON VOLUME,

where NEW-DSN is the new data set name of the edited data
       set, and
       VOLUME is the disk pack where the data set resides.

If the user would like to create a copy of the model, the data set in which the model resides can be 'SAVED' into an alternate data set name. It is important to note whether or not the new data set has been saved in card image format. If it is not, corresponding JCL will have to be modified in order to execute the model.