ENGINEERING SUPERVISION COMPANY

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August 9, 1976

MASTER

Mr. James Hartman, Technical Manager
Energy Research and Development Administration
350 South Figueroa, #267
Los Angeles, California 90071

Subject: National Energy Peak Levelling Program
Quarterly Report
ERDA Contract #E(04-3)-1152

Dear Mr. Hartman:

The Quarterly Report of July 31, 1976, is attached as an enclosure in accordance with the subject contract.

Should there be any questions or any requirement for additional information, please feel entirely free to query us.

Very truly yours,

Marvin S. Winders
Senior Vice President

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MSW /jm
Enclosure

cc: Mr. D. B. Campbell
Mr. Ike Sewell
Mr. Steve Cavros
Mr. Gerald Leighton
Dr. Gail Garbarini

AC03-76 CS 20012

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Figure 1 - Phase One System Test Configuration

Figure 2 - Phase Two System Test Configuration

Figure 3 - Operational Configurations

NATIONAL ENERGY PEAK LEVELLING PROGRAM

QUARTERLY STATUS REPORT

MAY - JULY 1976

31 JULY 1976

PROJECT OVERVIEW

EQUIPMENT PURCHASE.

THE ACQUISITION OF THE COMMUNICATIONS EQUIPMENT, TO INCLUDE THE COMMUNICATIONS TERMINATORS, IS PROGRESSING. ERDA WILL BE INFORMED IMMEDIATELY UPON RECEIPT OF THE EQUIPMENT.

ADDITIONAL DATA FOR THE 'REMOTE DATA ENTRY' TASK IS DISCUSSED IN THAT PARAGRAPH.

PROJECTIONS FOR THE AUGUST 'ESTIMATED FUTURE COSTS' (FORM 533) WILL BE SEEN TO BE CONSIDERABLY ABOVE THE ACTUAL EXPENDITURES FOR ANY PREVIOUS MONTH. THIS IS DUE TO THE LARGE ESTIMATED 'DIRECT MATERIAL' CASH OUTFLOWS THAT ARE ANTICIPATED IN AUGUST TO PAY FOR THE DELIVERY OF THE COMMUNICATIONS TERMINATORS IN THE NORMAL TURN-OVER OF ACCOUNTS. NOTE THAT THE TOTAL PROGRAM, HOWEVER, IS PROJECTED TO CONCLUDE ON COST, AS SCHEDULED.

WASHINGTON BRIEFING.

MR. MARVIN WINDERS, PROGRAM MANAGER, PRESENTED AN OVERVIEW AND UP-DATING TO STEVE CAVROS, TCO, ERDA/WASHINGTON OFFICE. MAJOR TOPICS INCLUDED PROJECT STATUS TO DATE, COMMUNITY INTERFACING, AND FUTURE PLANS.

PROJECT STATUS

MECHANICAL/ELECTRICAL AUDIT.

THIS SUB-TASK IS COMPLETE, WITH REMAINING HOURS AND DOLLARS REDISTRIBUTED AS DISCUSSED IN LAST MONTHS'S REPORT.

OPERATING PROFILES.

THE PROFILES FOR THE REMAINING FOUR DEMONSTRATION PARTICIPANT COMPLEXES ARE BEING COMPLETED AND/OR BEING PUT IN FINAL FORM. THEY WILL BE PRESENTED IN NEXT MONTH'S REPORT, EN BLOCK.

DETECT LOAD SHEDDING.

AS SHOWN ON THE FORM 535, THE BULK OF THIS WORK IS SCHEDULED FOR LATER IN THE PROGRAM, PRESENTLY PLANNED TO BEGIN TOWARD THE END OF AUGUST.

REMOTE DATA ENTRY.

THE NECESSARY SOFTWARE FOR THE COMMUNICATIONS TERMINATORS (CT) - COMPUTER FULL DUPLEX COMMUNICATIONS HAVE BEEN ESSENTIALLY COMPLETED AND TESTED INDEPENDENTLY FROM THE AWAITED CT. (SEE THE 'ANALYSIS' PARAGRAPH) UPON ARRIVAL OF THE CT, A TWO-STEP SYSTEMS TEST AND CHECK-OUT WILL BE PERFORMED IN THE HOME OFFICE PRIOR TO INSTALLING THE HARDWARE IN THE DEMONSTRATION PROJECT BUILDINGS.

THE PHASE ONE TEST CONFIGURATION IS SHOWN IN FIGURE 1. THE PURPOSE OF THIS TEST IS TO VERIFY THE PROPER FUNCTIONING OF THE CT THEMSELVES AND OF THEIR ASSOCIATED SOFTWARE. THE TEST CRT WILL BE UTILIZED TO SEND COMMANDS TO THE HOST CT. THE FOUR TOGGLE SWITCHES ARE USED TO SIMULATE THE PULSES FROM THE ON-SITE DEMAND METERS. AN OVERVIEW OF THE DEMAND METER - CT INTERFACE WAS PRESENTED BRIEFLY IN LAST MONTH'S REPORT.

THE PHASE TWO TESTING WILL BEGIN UPON SATISFACTORY COMPLETION OF PHASE ONE AND ITS ASSURANCE THAT THE CT'S ARE PERFORMING SATISFACTORILY. THE TEST CONFIGURATION FOLLOWS LOGICALLY FROM PHASE ONE AS AN INTERMEDIATE STEP TO THE OPERATIONAL CONFIGURATION.

THE PURPOSE OF THE PHASE TWO TESTING IS TO INSURE FULL AND PROPER SYSTEM RESPONSE AND INTER-ACTION AS THE LAST STEP PRIOR TO INSTALLING THE EQUIPMENT AT THE REMOTE SITES. AS SUCH, BOTH THE EQUIPMENT ITSELF AND THE PRIME/HOST SOFTWARE INTERACTIONS ARE TESTED AND VERIFIED.

THE SYSTEM CRT WILL BE A PERMANENT PART OF THE COMPLETE OPERATIONAL SYSTEM, SHOWN IN FIGURE 3. IN BOTH THE TEST AND OPERATIONAL MODES, THE SYSTEM CRT WILL BE UTILIZED TO SEND MESSAGES. IN THE OPERATIONAL MODE, IT PERMITS ESCO PERSONNEL TO MONITOR KWH CONSUMPTION OF ANY METER OR OF THE ENTIRE SYSTEM ON A REAL-TIME BASIS. THE MONITORING PRESENTS THE 5 AND/OR 15-MINUTE KWH DEMAND TOTALS.

THE SOFTWARE IS DISCUSSED IN THE 'ANALYSIS' PARAGRAPH.

ANALYSIS.

THE EFFORT IS CONTINUING PRIMARILY ON ONE OF THE TWO AREAS REPORTED EARLIER, I.E., THE DEVELOPMENT OF PROGRAMS FOR THE ANALYSIS OF REAL-TIME DATA. RESULTS OF THE ANALYSIS OF HISTORICAL DATA WERE PRESENTED IN THE TWO PRECEDING MONTHLY REPORTS. ADDITIONALLY, CERTAIN EFFORTS PERFORMED UNDER OTHER TASKS (E.G., COMPUTER PROGRAM DEVELOPMENT) HAVE BEEN AND WILL CONTINUE TO BE REPORTED UNDER THIS TASK TO ASSURE CONTINUITY AND CONSISTANCY OF LOGIC BETWEEN SUCCEEDING REPORTS. THIS IS DONE IN RECOGNITION THAT MOST OF THE ANALYSIS IS COMPUTER-ASSISTED. HENCE, AN OVERVIEW UNDERSTANDING OF THE SOFTWARE IS ESSENTIAL TO AN APPRECIATION OF THE ANALYSIS.

THE SOFTWARE TO SUPPORT THE REMOTE DATA ENTRY TASK HAS BEEN COMPLETED AND FULLY TESTED SEPARATE FROM THE COMMUNICATIONS TERMINATORS. THE METHODS OF, FIRST, SEPARATELY TESTING THE CT AND ASSOCIATED HARDWARE, FOLLOWED BY THE INTEGRATED TESTING OF THE HARDWARE AND SOFTWARE ARE DISCUSSED UNDER 'REMOTE DATA ENTRY'.

THE SOFTWARE WILL PROVIDE THE SYSTEM WITH THE CAPABILITY OF CONSTANTLY MONITORING AND RECORDING THE 5- AND 15-MINUTE KWH DEMANDS, BOTH BY METER, COMPLEX, AND FOR THE TOTAL SYSTEM. A 'DELTA KWH' WILL ALSO BE COMPUTED FOR EACH METER. SHOULD A METER REPORT A CHANGE IN A SUBSEQUENT KWH DEMAND WHICH IS GREATER THAN THE THEORETICAL 'DELTA KWH', THE BUILDING ENGINEER WILL BE QUERIED VIA THE CRT TO DETERMINE THE CAUSE. THE REPLY, ALONG WITH THE DEMAND DATA ARE TO BE DISPLAYED AT THE SYSTEM CRT, AND RECORDED IN A PERMANENT LOG.

CERTAIN DEMONSTRATION PARTICIPANTS ALSO HAVE THE CAPABILITY OF OBTAINING WEATHER DATA. WHERE EASILY AVAILABLE, THE DRY BULB AND WET BULB TEMPERATURES WILL BE MONITORED ON A ROUTINE BASIS, AND RECORDED ALONG WITH THE ELECTRICAL CONSUMPTION INFORMATION.

IN LAST MONTH'S REPORT, IT WAS NOTED THAT ADDITIONAL PROGRAMS AND UTILITY ROUTINES WERE BEING REFINED AND/OR DEVELOPED. THESE HAVE BEEN ESSENTIALLY COMPLETED. OTHERS WILL BE DEVELOPED ON AN ONGOING BASIS IF AND AS REQUIRED TO SUPPORT THE PROJECT.

SOCIO-ECONOMIC.

THIS EFFORT, AT THE REDUCED SCOPE DISCUSSED IN LAST MONTH'S REPORT, IS CONTINUING THROUGH THE END OF PHASE I.

U.S. Energy Research and Development Administration
FINANCIAL MANAGEMENT REPORT
(See Instructions on Reverse)

4. REPORTING PERIOD
 1 - 31, July, 1976
 (Monthly)

1. CONTRACT TITLE National Energy Peak Levelling Program (ESCO Ref. #305.)	2. ADDRESSEE (Name, Title, Address, and ZIP Code) Energy Research and Development Admin. P.O. Box 1446, Canoga Park, CA 91304		3. CONTRACT NUMBER E(04-3)-1152		5. CONTRACT VALUE \$ 217,724.00 PROGRESS PAYMENTS RECEIVED \$				
7. REPORTING CATEGORY (Brief Description of Task)	8. COST ACCRUED					9. ESTIMATED FUTURE COSTS		10.	
	CUMULATIVE ACTUAL END OF PRIOR PERIOD (a)	DURING PERIOD		CUMULATIVE TO DATE		SUBSEQUENT MONTH (d)	BALANCE OF FISCAL YEAR JUNE-30 SEPT 30 (b)	BALANCE OF CONTRACT (c)	ESTIMATED FINAL COSTS 8(d) + 9(c)
		ACTUAL (b)	ESTIMATED (c)	ACTUAL (a + b) (d)	ESTIMATED (a + c) (e)				
Direct Labor	37247.46	7582.28	7335.00	44829.74	44582.46	8987.27	17974.54	17974.54	62557.00
Overhead	50656.55	10311.90	9975.60	60968.45	60632.15	12222.43	24444.85	24444.85	85077.00
Direct Material	3609.98	625.03	479.40	4235.01	4089.38	23500.00	23995.62	23995.62	28085.00
Special Equipment	5012.28	1053.76	1289.24	6066.04	6301.52	1289.24	2578.48	2578.48	8880.00
Travel	1473.35	63.01	200.00	1536.36	1673.35	200.00	1601.65	1601.65	3275.00
Consultants	9200.08	1209.76	900.00	10409.84	10100.08	900.00	1749.92	1749.92	11850.00
Sub-Contractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Direct Costs	452.28	433.00	750.00	885.28	1202.28	900.00	1797.72	1797.72	3000.00
Sub- Total	107651.98	21278.74	20929.24	128930.72	128581.22	47998.94	74142.78	74142.78	202724.00
General and Administrative	Included with Overhead								
Sub-Total	107651.98	21278.74	20929.24	128930.72	128581.22	47998.94	74142.78	74142.78	202724.00
Fixed Fee	7965.00	1575.00	1548.60	9540.00	9513.60	2743.20	5486.40	5486.40	15000.00
TOTAL	115616.98	22853.74	22477.84	138470.72	138094.82	50742.14	79629.18	79629.18	217724.00
11. FINANCIAL MANAGEMENT REPORT NUMBER	12. DATE	APPROVAL (Signature of Contractor's Project Manager)			13. DATE	APPROVAL (Signature of ERUA Program Manager)			

U.S. Energy Research and Development Administration
FINANCIAL MANAGEMENT REPORT
(See Instructions on Reverse)

4. REPORTING PERIOD
 1 - 31, July, 1976
 (Monthly)

1. CONTRACT TITLE

National Energy Peak
 Levelling Program
 (ESCO Ref. #305)

2. ADDRESSEE (Name, Title, Address, and ZIP Code)

Energy Research and Development Admin.
 P.O. Box 1446, Canoga Park, CA 91304

3. CONTRACT NUMBER

E(04-3)-1152

5. CONTRACT VALUE

\$217,724.00

PROGRESS PAYMENTS
 RECEIVED

\$

6. CONTRACTOR (Name, Address and ZIP Code)

Engineering Supervision Company (ESCO)
 170 Newport Ctr. Dr., Ste. 150, Newport Beach, CA 92660

7. REPORTING CATEGORY
(Brief Description of Task)**8. COST ACCRUED**

CUMULATIVE
 ACTUAL
 END OF
 PRIOR
 PERIOD
 (a)

DURING PERIOD

ACTUAL
 (b)

ESTIMATED
 (c)

CUMULATIVE TO DATE

ACTUAL
 (a + b)
 (d)

ESTIMATED
 (a + c)
 (e)

9. ESTIMATED FUTURE COSTS

SUBSEQUENT
 MONTH
 (a)

BALANCE
 OF
 FISCAL YEAR
 - JUNE 30
 SEPT (b) 30

BALANCE
 OF
 CONTRACT
 (c)

10.

ESTIMATED
 FINAL
 COSTS
 8(d) + 9(c)

Task 1. Audit

4724.68

0.0

0.0

4724.68

4724.68

0.0

0.0

0.0

4724.68

Task 2, Building Operating Prf. 3589.38

1635.97

775.00

5225.35

4364.38

358.38

358.38

358.38

4722.76

Task 3, Load Shedding Deter.

1990.84

442.58

1280.00

2433.42

3270.84

1200.00

2567.54

2567.54

5838.38

Task 4, Remote Data Entry

10238.30

2009.56

2200.00

12247.86

12438.30

2400.00

7689.22

7689.22

20127.52

Task 5, Analysis

8722.83

1621.07

1250.00

10343.90

9972.83

1600.00

3051.96

3051.96

13024.79

Task 6, Feedback

1062.90

198.57

260.00

1261.47

1322.90

400.00

833.95

833.95

2156.85

Socio-Economic

2567.14

1458.44

850.00

4025.58

3417.14

850.00

1709.72

1709.72

5126.86

Project Management

4351.39

216.09

720.00

4567.48

5071.39

900.00

1763.77

1763.77

6835.16

TOTAL

37247.46

7582.28

7335.00

44829.74

44582.46

7708.38

17727.26

17727.26

62557.00

**11. FINANCIAL MANAGEMENT
 REPORT NUMBER**

12. DATE

APPROVAL (Signature of Contractor's Project
 Manager)

13. DATE

APPROVAL (Signature of ERDA Program Manager)

U.S. Energy Research and Development Administration

MANPOWER UTILIZATION REPORT

(See Instructions on Reverse)

4. REPORTING PERIOD

1 - 31 July, 1976
(Monthly)

1. CONTRACT TITLE

National Energy Peak
Levelling Program
(ESCO Ref. #305)

2. ADDRESSEE (Name, Title, Address, and ZIP Code)

Energy Research and Development Admin.
P.O. Box 1446, Canoga Park, CA 91304

3. CONTRACT NUMBER

E(04-3)1152

5. CONTRACT VALUE

\$ 217,724

PROGRESS PAYMENTS
RECEIVED

\$

6. CONTRACTOR (Name, Address and ZIP Code)

Engineering Supervision Company (ESCO)
170 Newport Ctr. Dr., Ste. 150, Newport Bch, CA 92660

7. REPORTING CATEGORY (Brief Description of Task)	8. MAN-HOURS WORKED					9. ESTIMATED FUTURE MAN-HOURS			10. ESTIMATED FINAL MAN-HOURS 8(d) + 9(c)
	CUMULATIVE ACTUAL END OF PRIOR PERIOD (a)	DURING PERIOD		CUMULATIVE TO DATE		SUBSEQUENT MONTH (d)	BALANCE OF FISCAL YEAR JUNE 30 (b)	BALANCE OF CONTRACT (c)	
		ACTUAL (b)	ESTIMATED (c)	ACTUAL (a + b) (d)	ESTIMATED (a + c) (e)				
Task 1, Audit	424.0	0.0	0.0	424.0	424.0	0.0	0.0	0.0	424.0
Task 2, Building Operat. Prof.	325.0	164.0	125.0	489.0	450.0	15.0	19.0	19.0	508.0
Task 3, Load Shedding Deter.	177.0	43.0	150.0	220.0	327.0	110.0	408.0	408.0	628.0
Task 4, Remote Data Entry	1049.5	228.0	250.0	1277.5	1299.5	225.0	887.5	887.5	2165.0
Task 5, Analysis	829.0	163.0	165.0	992.5	994.5	150.0	408.5	408.5	1401.0
Task 6, Feedback	127.0	33.0	35.0	160.0	162.0	40.0	114.0	114.0	274.0
Socio-Economic	102.0	61.5	40.0	163.5	142.0	40.0	62.5	62.5	226.0
Project Management	248.5	19.5	30.0	268.0	278.5	50.0	124.0	124.0	392.0
TOTAL	3282.5	712.0	795.0	3994.5	4077.5	630.0	2023.5	2023.5	6018.0
11. MANPOWER UTILIZATION REPORT NUMBER	12. DATE	APPROVAL (Signature of Contractor's Project Manager)				13. DATE	APPROVAL (Signature of ERDA Project Manager)		

U.S. Energy Research and Development Administration

SCHEDULAR PERFORMANCE REPORT

(See Instructions on Reverse)

4. REPORTING PERIOD
1 - 31, July 1976

(Monthly)

1. CONTRACT TITLE National Energy Peak Levelling Program (ESCO Ref. #305.)		2. ADDRESSEE (Name, Title, Address and ZIP Code) Energy Research and Development Admin. P.O. Box 1446, Canoga Park, CA 91304		3. CONTRACT NUMBER E(04-3)-1152		4. ERDA USE ONLY PROJECT MANAGER									
		5. CONTRACTOR (Name, Address and ZIP Code) Engineering Supervision Company 170 Newport Ctr. Dr., Ste. 150 Newport Bch.		6. APPROVED SCHEDULE DATE		EVALUATION DATE									
7. REPORTING CATEGORY		YEARS 1976 CA 92660										8. TECHNICAL OBJECTIVE % COMPLETED		EVALUATION	
		MONTHS													
		2 3 4 5 6 7 8 9 10													
Task 1, Audit												100%		Completed under-run in cost and hours	
Task 2, Building Operating Prof.												92%			
Task 3, Load Shedding Determ.												42%			
Task 4, Remote Data Entry												61%			
Task 5, Analysis												79%			
Task 6, Feedback												58%			
Socio-Economic												79%			
Project Management												67%			
LEGEND:		DATE										9. SUBMISSION APPROVAL (Signature of Contractor's Project Manager)			
<div style="border: 1px solid black; padding: 2px;">ERDA Approved Schedule</div> <div style="border: 1px solid black; padding: 2px;">Contractor's Working Schedule</div>															