

PG and E

FOR INTRA - COMPANY USES

From Division or Department: **ELECTRIC TRANSMISSION AND DISTRIBUTION
GAS UTILIZATION**

FILE NO. **907**

RE LETTER OF SUBJECT: **Residential TOU Program**

To Division or Department:

P6E 2-22-83

MEMO

Hold - This may come up for agreement in negotiations

601.4

February 22, 1983

DIVISION MANAGERS:

This letter is to inform you that training will be made available to your Division Gas and Electric Service personnel on the installation of time of use electric meters as part of the Residential Time-of-Use (D-7) Program.

The Gas Utilization and Electric T&D Departments will work closely with Division Gas Service Supervisors and Electric Meter Foremen to arrange details on scheduling a brief audio-visual presentation with handout material developed for this training program. The video cassettes and handout material will be sent under separate cover to your Division Gas Service Supervisor and Electric Meter Foreman.

All labor and material costs for the Residential Time-of-Use (D-7) Program are to be charged to GM 1931880, Account 212.

We look forward to a successful joint effort by Electric T&D and Gas Service in this cooperative installation effort.

If you have any questions regarding the above, please contact Sam Bellestri (22-4813) of the Gas Utilization Department or Ted Daley (22-1279) of the Electric T&D Department.

F. C. Buchholz
F. C. BUCHHOLZ

P. E. Long
P. E. LONG

SSBellestri(22-4813):ed

- cc: JYDeYoung Division Electric Superintendents
- GFClifton, Jr. Division Gas Superintendents
- HPBraun Division Gas Service Supervisors
- HMMcKinley Division Electric Meter Foremen
- TADaley
- JRHudson

LTR. MAILED
MAR 4 1983

MEMO

GUIDELINES

1. The training program should be a joint effort by both the Gas and Electric Departments. Electric Department personnel should be invited to attend and participate.
2. The program should run about 35 minutes.
3. Program Outline
 - A. Brief Introduction
 - B. Video Program
 - C. Give Out Handout Material
 - D. General Discussion and Additional Information

1. The video program states that "all installations require the use of steel locking rings." You should find out whether your Division requires the use of steel locking rings on these meter installations, for its not a requirement of the program, ~~but an optional item.~~ *extent of exposure to tampering and to a*

2. Batteries

Mention that the batteries have an internal fuse and extreme care should be taken to avoid shorting the terminals of the battery when handling or installing. Once the fuse blows, the battery is no longer any good.

Other precautions:

- a. Never attempt to recharge.
- b. If stored in a container where they can touch one another, all batteries should be turned in the same direction to prevent the possibility of short-circuit. Preferable, batteries should be kept separated from one another.
- c. Batteries should never be stored or transported in metal conductive containers.

3. Marking Meter (see attachment)

The following information must be printed on the face of the register immediately below the unit's dial of the mechanical register with a soft lead pencil.

- a. Rate schedule - (D7)
- b. Month and year the meter is programmed.
- c. Initials of the person programming the meter.

PGE

GENERAL INFORMATION BULLETIN

DIVISION OR DEPARTMENT

TRANSMISSION AND DISTRIBUTION -
ELECTRIC OPERATIONS

RE LETTER OF SUBJECT

Visual Identification of the Rate
Programmed In Multi-Tariff Time of Use
Wathour Demand Meters

Transmission and Distribution
Bulletin No. 3-28
Effective: February 1, 1983

DIVISION MANAGERS:

This Bulletin establishes a procedure for identifying and marking the rate schedule programmed in a multi-tariff wathour demand meter for time of use accounts.

GENERAL

Time of use electric wathour demand meters have the capability of being programmed for different rate schedules, A-21, PA2X, D-7, PA3X, PAR-Odd and PAR-Even.

It is necessary to know what rate schedule has been programmed in the meter register, both by means of the electronic display and by a physical mark on the face of the meter. These identifications are to inform the customer, and Company personnel servicing the meter, which rate schedule is being metered.

INSTRUCTIONS

The following information will be printed on the face of the register immediately below the unit's dial of the mechanical register with a soft lead pencil (see Exhibit A):

1. Rate schedule assigned to the installation by the Power Billing Order.
2. The month and year the meter is programmed.
3. Initials of the person programming the meter.

The meter should be programmed, verified and data listed above entered on the dial face in advance of installing the meter at the jobsite. Before leaving the jobsite, verify that the meter program agrees with the rate schedule requested and what is printed on the dial face.

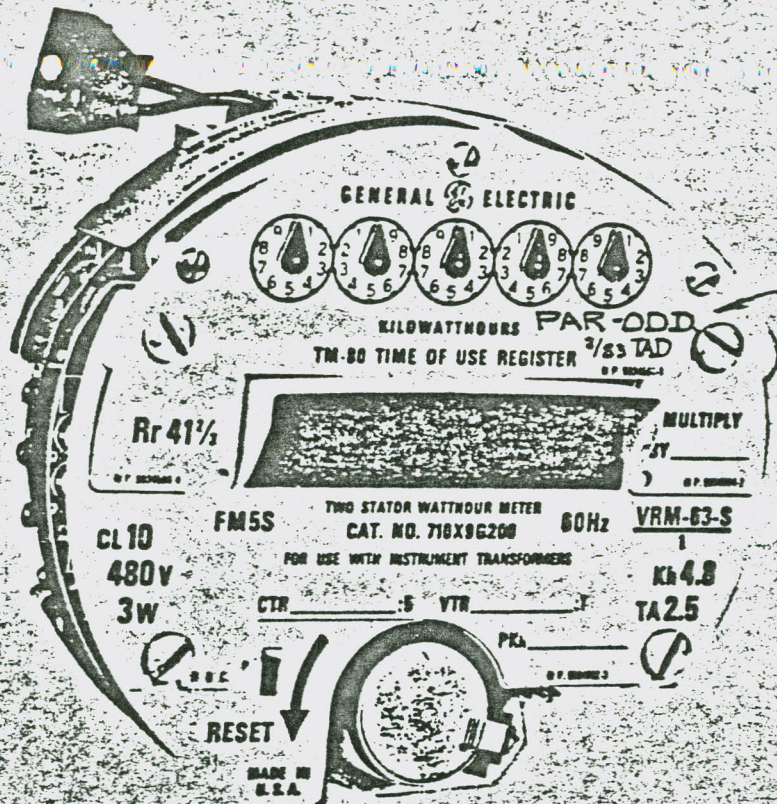
F. C. BUCHHOLZ



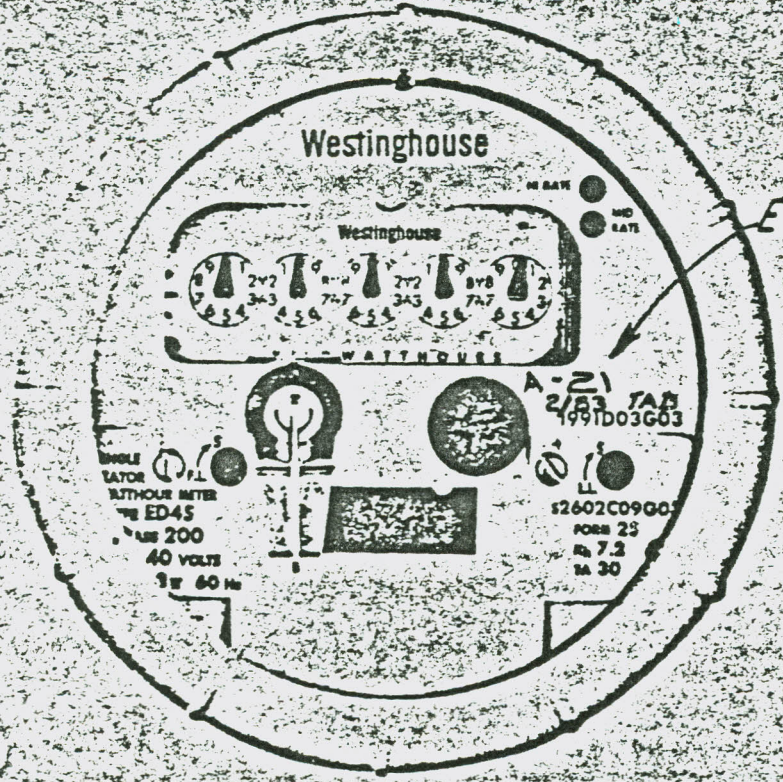
TADaley(22-1279)ms

DISPOSITION:

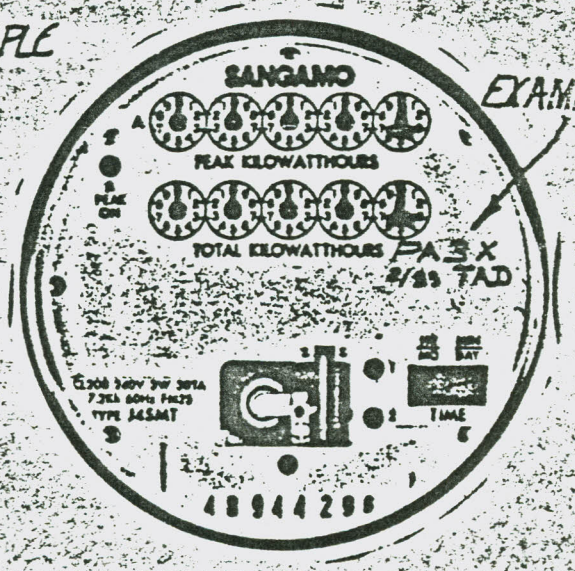
IF TO BE FILED, SHOW FILE NUMBER HERE.



EXAMPLE



EXAMPLE



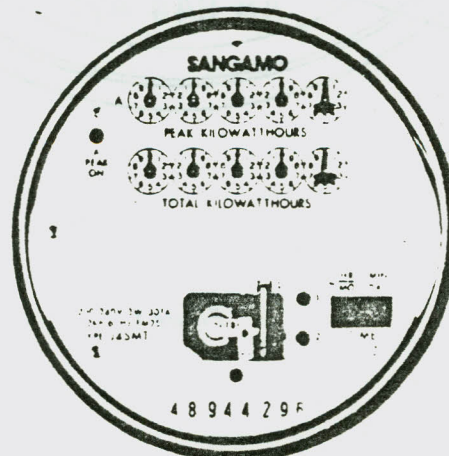
EXAMPLE

TIME OF USE METERING

PACIFIC GAS & ELECTRIC COMPANY IS RAPIDLY APPROACHING THE TIME WHEN ELECTRICAL ENERGY DEMAND WILL SURPASS SUPPLY. ONE OF THE METHODS WHICH CAN RELIEVE THIS CONDITION IS TIME OF USE RATES.

TIME OF USE RATES GIVE CUSTOMERS AN INCENTIVE TO SHIFT THEIR USE OF ELECTRICITY TO OFF-PEAK HOURS THUS REDUCING OUR COMPANYS' PEAK LOAD DEMAND WHICH ENABLES THE COMPANY TO BETTER UTILIZE ITS GENERATING FACILITIES, AND AT THE SAME TIME, CUSTOMERS CAN REALIZE A SAVINGS ON THEIR ELECTRIC BILLS. TIME OF USE RATES CAN RESULT IN MINIMIZING THE PURCHASING OF POWER FROM OTHER UTILITIES AT HIGH RATES AND IN DELAYING OR EVEN ELIMINATING THE CONSTRUCTION OF NEW GENERATING FACILITIES.

P. G. & E. WILL IMPLEMENT TIME OF USE RATES BY HAVING GAS SERVICEMEN INSTALL SPECIAL ELECTRIC METERS DESIGNED TO MEASURE A CUSTOMER'S TOTAL ELECTRIC USAGE WITH ONE SET OF DIALS AND ALSO THE CUSTOMER'S PEAK HOURS OF USAGE WITH A SECOND SET OF DIALS.



THE MULTI-TARIFF ELECTRIC METER

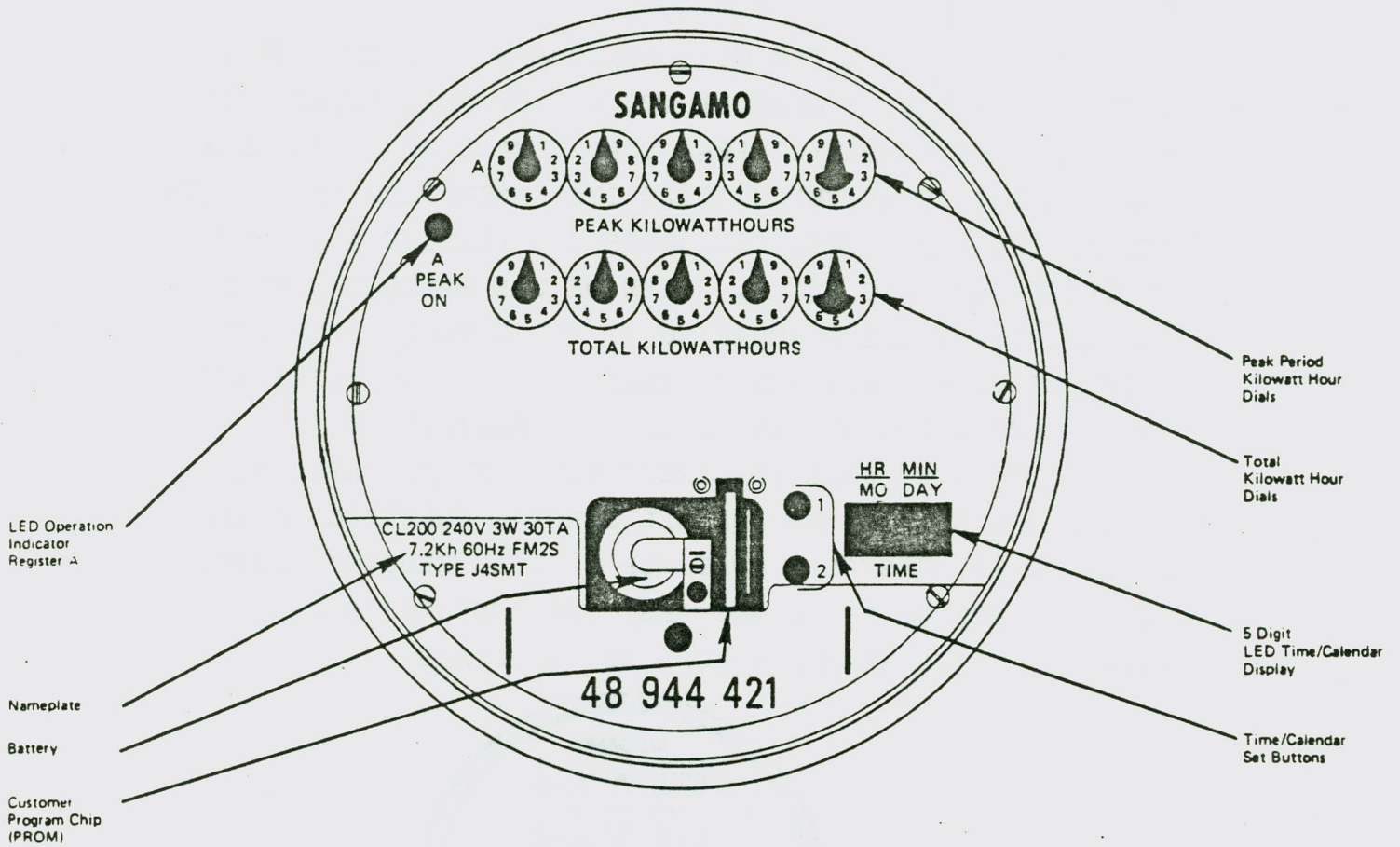


Figure 1

INSTALLATION PROCEDURE FOR MT METER

601.4
2-22-83

PGE MEMO

- A. IF METER TO BE INSTALLED IS FOR A NEW SET.
 - 1. CHECK METER BASE FOR PROPER VOLTAGE. (240 VAC SERVICE)
 - 2. GO TO STEP C.
- B. IF METER TO BE INSTALLED IS TO REPLACE AN EXISTING CONVENTIONAL METER.
 - 1. REMOVE CONVENTIONAL METER FROM BASE.
- C. TRANSPORT MULTI-TARIFF METER AND BATTERY TO METER BASE LOCATION.
- D. REMOVE INTERNAL SEAL FROM MT METER IF EQUIPPED WITH ONE.
- E. TURN OFF MAIN DISCONNECT SWITCH TO CUSTOMER LOAD.
- F. PLUG MT METER INTO METER BASE.
- G. GRASP METER GLASS WITH BOTH HANDS AND TWIST COUNTER-CLOCKWISE APPROXIMATELY TWO INCHES. (METER GLASS SHOULD BE FREE, CAREFULLY REMOVE GLASS FROM METER FACE)

NOTE: IT IS A MUST THAT THE TIME TO BE SET ON THE MT METER BE ACCURATE TO WITHIN A PLUS OR MINUS 60 SECONDS! BE SURE THAT YOUR WATCH IS PROPERLY SET.

- H. SET THE TIME/CALENDAR. (INITIALLY SET METER MINUTES 2 MIN. FAST)
 - 1. DEPRESS SWITCH 2 (HOURS/MINUTES ARE DISPLAYED, MIN. WILL BLINK)
 - 2. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING OF CORRECT MINUTES)
 - 3. DEPRESS SWITCH 2 (HOURS/MINUTES ARE DISPLAYED, HRS. WILL BLINK)

NOTE: MILITARY TIME IS USED TO SET CORRECT HOUR. SEE PAGE 4 FOR AN EXAMPLE.

- 4. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING CORRECT HOUR)
- 5. DEPRESS SWITCH 2 (MONTH/DATE ARE DISPLAYED, DATE WILL BLINK)
- 6. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING OF CORRECT DATE)
- 7. DEPRESS SWITCH 2 (MONTH/DATE ARE DISPLAYED, MONTH WILL BLINK)
- 8. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING CORRECT MONTH, 1-12)
- 9. DEPRESS SWITCH 2 (YEAR/DAY OF WEEK ARE DISPLAYED, DAY BLINKS)

NOTE: SUNDAY IS THE FIRST DAY OF A WEEK. IF METER IS BEING SET ON A FRIDAY, DAY OF THE WEEK WOULD BE (6).

- 10. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING CORRECT DAY OF WEEK)
- 11. DEPRESS SWITCH 2 (YEAR/DAY OF WK. ARE DISPLAYED, YEAR WILL BLINK)
- 12. DEPRESS SWITCH 1 (THIS WILL ALLOW SETTING CORRECT YEAR)
- 13. DEPRESS SWITCH 2 (THIS CAUSES METER TO REVERT TO PROGRAM CONTROL AND STARTS THE INTERNAL CLOCK)

MILITARY TIME

12:00 MIDNIGHT	2400 HOURS
1:00 AM	100 "
2:00 AM	200 "
3:00 AM	300 "
4:00 AM	400 "
5:00 AM	500 "
6:00 AM	600 "
7:00 AM	700 "
8:00 AM	800 "
9:00 AM	900 "
10:00 AM	1000 "
11:00 AM	1100 "
12:00 NOON	1200 "
1:00 PM	1300 "
2:00 PM	1400 "
3:00 PM	1500 "
4:00 PM	1600 "
5:00 PM	1700 "
6:00 PM	1800 "
7:00 PM	1900 "
8:00 PM	2000 "
9:00 PM	2100 "
10:00 PM	2200 "
11:00 PM	2300 "
12:00 MIDNIGHT	2400 "

EXAMPLE: SERVICEMAN IS SETTING METER CLOCK TO 2:35 PM.

1435 HOURS

601.4
P6E MEMO
2-22-83

INSTALLATION PROCEDURE FOR MT METER

- I. INSTALL BATTERY AND TWIST CONTACT UNDER KEEPER.
- J. VERIFY THAT METER TIME IS CORRECT. (PLUS OR MINUS 60 SECONDS)
- K. CAREFULLY INSTALL METER GLASS. (TURN CLOCKWISE APPROX. 2 INCHES)
- L. REMOVE METER FROM SOCKET BASE AND INSTALL AN INTERNAL SEAL.

NOTE: TAB SEALS WILL BE PROVIDED BY ELECTRIC DEPARTMENT, BUT IF A TAB SEAL IS NOT AVAILABLE, A WIRE SEAL OF THE TYPE USED BY GAS SERVICEMEN MAY BE USED.

- M. INSTALL METER BACK INTO SOCKET BASE AND VERIFY THAT TIME ON METER IS STILL CORRECT.

NOTE: IF FOLLOWING STEP (M) THE TIME AND OTHER INFORMATION IS NO LONGER CORRECT, THE POSSIBLE CAUSES ARE; (BATTERY IMPROPERLY INSTALLED-INSTALL BATTERY CORRECTLY) (BATTERY DEAD-INSTALL NEW BATTERY) (METER BAD-INSTALL NEW METER)
ALL OF THESE CAUSES AND REMEDIES WILL REQUIRE THE SERVICEMAN TO RETURN TO STEP (H) AND RESET THE TIME/CALENDAR.

- N. INSTALL METER RING AND SEAL SAME.
- O. COMPLETE METER TAG WORK.

NOTE: SEE PAGES 6 and 7 FOR CORRECT METHOD OF ENTERING ELECTRIC METER NUMBER AND THE TWO READS.

MULTIPURPOSE CUSTOMER SERVICE ORDER

ITEMS

- ① EXISTING METER NUMBER (WILL NOT APPEAR ON A SET TAG)
- ② READ ON EXISTING METER (TOTAL LOAD READ IF EXISTING METER IS TIME-OF-USE)
- ③ PEAK LOAD READ IF EXISTING METER IS TIME-OF-USE METER
- ④ NEW METER NUMBER IF TIME-OF-USE METER IS INSTALLED OR REPLACED WITH / CONVENTIONAL METER
- ⑤ PEAK LOAD READ IF A TIME-OF-USE METER IS INSTALLED
- ⑥ TOTAL LOAD READ IF A TIME-OF-USE METER IS INSTALLED OR REPLACED
- ⑦ ENTERED IF A TIME-OF-USE METER IS INSTALLED OR REMOVED
- ⑧ INDICATE THE TYPE OF WORK COMPLETED BY SERVICEMAN

EXAMPLES

- A. TURN-ON OR SHUT-OFF WHEN EXISTING METER IS A TIME-OF-USE METER
 - a. ENTER ONLY ②, ③, & ⑧, ⑦
- B. METER CHANGE WHERE EXISTING METER WILL BE REPLACED WITH A TIME-OF-USE
 - a. ENTER ONLY ②, ④, ⑤, ⑥, ⑦, & ⑧
- C. METER CHANGE WHERE CONVENTIONAL METER REPLACES TIME OF-USE-METER
 - a. ENTER ONLY ②, ③, ④, ⑥, & ⑧, ⑦
- D. METER SET WHERE A TIME-OF-USE METER IS INSTALLED
 - a. ENTER ONLY ④, ⑤, ⑥, ⑦, & ⑧

PHONE _____ DATE TAKEN _____ TAKEN BY _____

RATE	TYPE	METER #	MULT/CONST	LOCATION	KEY
G		530216			
E		247751	①		

TRANSFER TO

ACCT# _____

LAST READ	DATE	READ	VERFY	ADDITIONAL METER WORK
G				
E		③ → XXXXX PEAK-LOAD		GAS METER # ④ 5 GAS READ MULT ⑤ 00000 PEAK LOAD
		② → 34900 TOTAL-LOAD		ELEC METER # ⑥ 776129 ELEC READ CONST ⑦ 00000 TOTAL LOAD

SERVICEMAN'S REMARKS: TURNED-ON / SHUT-OFF
INSTALLED / REMOVED TIME-OF-USE ELECTRIC METER
 METER DATE _____ METER TIME _____ ACTUAL TIME _____

INCOMPLETE CALLS: CGI, etc.				
DATE	ARRIVED	DEPARTED	BY	REASON
	A.M. P.M.	A.M. P.M.		
SERVICEMAN'S REPORT			WORKMAN TO PLACE AN X IN SQUARE OPPOSITE WORD THAT DESCRIBES WORK ACTUALLY PERFORMED.	
	INSPECTED	ADJUSTED		
	MAIN BURNER	PILOT		
	MIN FLAME	INPUT		
	A.S.O.	LEAK REPD.		
		1-2-1		
		TIEMIN		
RANGE TOP				TIME ARRIVED
OVEN				• A.M.
BROILER				• P.M.
HEATER ROOM			GAS	TIME COMPLETED
WALL			TURN ON	• A.M.
FURNACE FLOOR			FOUND SERVICE ON	• P.M.
FORCED AIR			CHANGE PARTY	DATE COMPLETED
GRAV TY			SET	⑧
WATER HEATER			SHUT OFF	COMPLETED BY
CLOTHES DRYER			CUT	
METER SET			METER CHANGE	
SERV. REGULATOR	ADJUSTED	SERVICED	REPLACED	
PRESSURE TAKEN AT	APPLIANCE METER	FOUND LEFT	LOCKUP	PILOT FLOW
			FLOW	MANIFOLD
			REPLACED FUSE	
			AMPS	

ITEMS

- ① EXISTING METER NUMBER (WILL NOT APPEAR ON A SET TAG)
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- ⑤ PEAK LOAD READ IF A TIME-OF-USE METER IS INSTALLED
- ⑥ TOTAL LOAD READ IF A TIME-OF-USE METER IS INSTALLED OR REPLACED
- ⑦ ENTERED IF A TIME-OF-USE METER IS INSTALLED, REMOVED, SHUT-OFF, OR TURNED-ON
- ⑧ INDICATE THE TYPE OF WORK COMPLETED BY SERVICEMAN

EXAMPLES

- A. TURN-ON OR SHUT-OFF WHEN EXISTING METER IS A TIME-OF-USE METER
 - a. ENTER ONLY ②, ③, ⑦, & ⑧
- B. METER CHANGE WHERE EXISTING METER WILL BE REPLACED WITH TIME-OF-USE
 - a. ENTER ONLY ②, ④, ⑤, ⑥, ⑦, & ⑧
- C. METER CHANGE WHERE CONVENTIONAL METER REPLACES TIME-OF-USE METER
 - a. ENTER ONLY ②, ③, ④, ⑥, ⑦, & ⑧
- D. METER SET WHERE A TIME-OF-USE METER IS INSTALLED
 - a. ENTER ONLY ④, ⑤, ⑥, ⑦, & ⑧

COMPLETED	WORKMAN	DATE	ARRIVED	DEPARTED
				AM
				PM
GAS	BY			
COMPLETED	WORKMAN	DATE	ARRIVED	DEPARTED
				AM
				PM
ELEC	BY			

METER INFORMATION	CO. NO.	GAS	ELEC.	WORKMAN TO PLACE AN X IN SQUARE OPPOSITE WORD THAT DESCRIBES WORK ACTUALLY PERFORMED.
	READ.	BILLING MULTIPLIER	TURN ON	CO. NO. 776T29 ← ④
	PRESSURE	SIZE	CHANGE PARTY	⑤ → XXXXXX BILLING PERIOD
	ALTITUDE ZONE	ELEVATION GROUP	SET	⑥ → 000000
		FOUND SERVICE C	⑧	UNDERGROUND SERVICE
		CGI		
	CO. NO.		TURN OFF	CO. NO. 247751 ← ①
	READ.	BILLING MULTIPLIER	OUT	③ → XXXXXX BILLING PERIOD
	PRESSURE	SIZE	METER	② → 34900

SERVICEMAN'S REPORT	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>REPORTED</td> <td>ADJUSTED</td> </tr> <tr> <td>REPAIR</td> <td>REPAIR</td> </tr> <tr> <td>MUST</td> <td>MUST</td> </tr> <tr> <td>REPAIR</td> <td>REPAIR</td> </tr> <tr> <td>REPAIR</td> <td>REPAIR</td> </tr> <tr> <td>REPAIR</td> <td>REPAIR</td> </tr> </table>	REPORTED	ADJUSTED	REPAIR	REPAIR	MUST	MUST	REPAIR	REPAIR	REPAIR	REPAIR	REPAIR	REPAIR	REMARKS
REPORTED	ADJUSTED													
REPAIR	REPAIR													
MUST	MUST													
REPAIR	REPAIR													
REPAIR	REPAIR													
REPAIR	REPAIR													
RANGE TOP		TURNED-ON / SHUT-OFF												
OVEN		INSTALLED / REMOVED												
PROILER														
HEATER ROOM		TIME-OF-USE ELECTRIC METER												
WALL														
FURNACE FLOOR		METER-DATE _____ METER-TIME _____												
FORCED AIR		ACTUAL TIME _____												
GRAVITY														
WATER HEATER														
CLOTHES DRYER														
METER SET														
REJECTED	SERVICED	REPLACED												

TIME OF USE METERING ORDER

A TIME OF USE METER FORM MUST BE COMPLETED AS OUTLINED FOR ALL METER TRANSACTIONS AND ATTACHED TO YOUR MULTIPURPOSE CUSTOMER SERVICE ORDER OR D & C METER TRANSACTION ORDER

- ① TIME OF USE METER NUMBER
- ② INDICATE TYPE OF METER IN SPACE PROVIDED AND PLACE ITS CODE NUMBER (3) IN BOX 27
- ③ ENTER CONSTANT OF 1
- ④ PEAK LOAD READ
- ⑤ TOTAL LOAD READ
- ⑥ METER DATE
- ⑦ METER TIME
- ⑧ ACTUAL TIME
- ⑨ COMPLETED BY, DATE, ARRIVAL AND DEPARTURE TIMES

PG&E		TIME OF USE METERING ORDER				FORMAT 1481 LEVEL 9																				
DATE ISSUED	ISSUED BY	TIME	AM PM	DATE WANTED	AM PM																					
ACCOUNT NUMBER 1 [] [] [] [] [] [] [] [] [] [] 10 S D O R T ACCOUNT		11 12 CHANGE CODE T U	13 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>A</td><td>SET</td></tr> <tr><td>B</td><td>TURN ON</td></tr> <tr><td>C</td><td>SHUT OFF</td></tr> <tr><td>D</td><td>OUT</td></tr> <tr><td>E</td><td>M C IN</td></tr> <tr><td>F</td><td>M C OUT</td></tr> <tr><td>G</td><td>SPC BILL</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>		A	SET	B	TURN ON	C	SHUT OFF	D	OUT	E	M C IN	F	M C OUT	G	SPC BILL								
A	SET																									
B	TURN ON																									
C	SHUT OFF																									
D	OUT																									
E	M C IN																									
F	M C OUT																									
G	SPC BILL																									
EFF DATE 14 [] [] [] [] 19 YR MO DAY		20 25 TIME OF USE METER NUMBER 776729		26 BILLING PERIOD (A or B)																						
27 28 TYPE OF METER 1 = BDR 2 = TM80 3 = J4SMT		29 CIC NUMBER (req. if BDR)		29 CHANNEL NUMBER (req. if CIC 4-5)																						
KWH <input type="checkbox"/> READS		33 34 CONSTANT [] [] [] [] [] [] [] []	35 36 ON PEAK [] [] [] [] [] [] [] []	50 54 TOTAL [] [] [] [] [] [] [] []		LZ OR SKIP																				
DISPLAY CODE (reg. if BDR)		40 44 PART PEAK [] [] [] [] [] [] [] []	45 49 OFF PEAK [] [] [] [] [] [] [] []																							
KW DEMAND <input type="checkbox"/> READS		55 59 CONSTANT [] [] [] [] [] [] [] []	60 65 ON PEAK [] [] [] [] [] [] [] []	66 71 72 77 PART PEAK OFF PEAK [] [] [] [] [] [] [] []																						
DISPLAY CODE (reg. if BDR)		78 81 METER DATE [] [] [] []	82 85 METER TIME [] [] [] []	86 89 ACTUAL TIME [] [] [] []																						
TIMES		0218	0845	0845																						
RKVA <input type="checkbox"/> READS		11 13 26 Billing Period (A or B) R K [] []	27 TYPE METER	10 28 LEVEL CIC NUMBER	29 LZ OR SKIP CHANNEL NUMBER																					
DISPLAY CODE (reg. if BDR)		30 34 CONSTANT [] [] [] [] [] [] [] []	35 39 ON PEAK [] [] [] [] [] [] [] []																							
DISPLAY CODE (reg. if BDR)		40 44 PART PEAK [] [] [] [] [] [] [] []	45 49 OFF PEAK [] [] [] [] [] [] [] []	50 54 TOTAL [] [] [] [] [] [] [] []																						
ELECTRIC <input type="checkbox"/>		COMPLETED BY Jones	DATE 2-18-83	ARRIVED 830 AM PM	DEPARTED 850 AM PM	TAG POSTER	PENDING FILE																			
CUSTOMER _____						62-3585 (5/80)																				