

ORIGINAL

Decision No. 90146 APR 10 1979

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of SOUTHERN CALIFORNIA EDISON COMPANY for Review and Consideration of Time-of-use Pricing Tariff Pursuant to the Order in Decision No. 85559 in Case No. 9804 as Modified by Decision No. 86543.	)	Application No. 57653 (Filed October 25, 1977)
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Rollin E. Woodbury, Robert J. Cahall, William E. Marx, H. Robert Barnes, Carol B. Henningson, by Carol B. Henningson, Attorney at Law, and John L. Dee, for Southern California Edison Company, applicant.

Brobeck, Phleger & Harrison, by Gordon E. Davis, William H. Booth, and James M. Addams, Attorneys at Law, for the California Manufacturers Association; Allen R. Crown, Attorney at Law, for California Farm Bureau Federation; Thomas S. Knox, Attorney at Law, for California Retailers Association; Graham & James, by Boris H. Lakusta and Jerry J. Suich, Attorneys at Law, for California Hotel and Motel Association; Harry Winters, by James Walker, for the University of California; Alex Googooian, Attorney at Law, for the City of Bellflower and the City of La Mirada; and R. D. Twomey, Jr., Attorney at Law, for the Metropolitan Water District of Southern California; interested parties. James S. Rood, Attorney at Law, and Andrew Tokmakoff, for the Commission staff.

## O P I N I O N

By this application Southern California Edison Company, an electrical corporation as defined in Section 218 of the Public Utilities Code, seeks to extend the application of its Schedule No. TOU-8 to include customers whose maximum monthly demand exceeds 1,000 kW. That schedule currently has application to

customers whose maximum monthly demand exceeds 5,000 kW. Applicant proposes adjustment in the level of rates in Schedule No. TOU-8 so that the total revenue generated therefrom will be the same as the total revenue generated by current applicable schedules for customers with demands exceeding 1,000 kW.

Public hearings were held at Los Angeles before Administrative Law Judge Thompson on March 8, 13, and 17, 1978, and the matter was submitted on briefs received May 15, 1978. There was opposition to applicant's proposal.

This application stems from Decision No. 85559, dated March 16, 1976, in Case No. 9804. That case was an investigation by the Commission into electric utility rate structures and the changes therein that should be made to encourage conservation of electricity. One of the changes considered by the Commission was a requirement for new metering which would enable higher prices for consumption of electricity at the demand peaks each day. Ordering Paragraph 1 of that decision required applicant, among other utilities, to file specific time-of-use (TOU) pricing tariffs covering large usage customers. Pursuant thereto, applicant filed Application No. 56408 for review and consideration of a proposed TOU pricing tariff for customers with monthly maximum demands greater than 5,000 kW. Pursuant to Decision No. 87744, dated August 23, 1977, applicant filed its Schedule No. TOU-8 now applicable to monthly demand usage over 5,000 kW. That was the first step in the program formulated in Decision No. 85559 regarding revision in rate structures to achieve higher prices for consumption during demand peaks. The second step was initiated by the Commission in Decision No. 86543, dated October 26, 1976, in which applicant, among others, was ordered to file specific TOU tariffs for demands greater than 1,000 kW. Pursuant to such order Edison has filed this application, so that what is essentially involved here is the second step in the implementation of the electrical rate structure policy enunciated by the Commission in Decision No. 85559.

Applicant provided alternate schedules, the staff provided a number of alternate schedules, and California Retailers Association suggested a schedule of rates. There was testimony regarding the efficacy of TOU pricing schedules and of the effect of the application of such schedules upon individual customers and classes of customers. Before discussing any of the individual rate structures proposed herein, it would be better to set forth what all of those proposals are intended to accomplish, and to describe generally what customers would be affected thereby.

At this point it is intended by the rate proposals that they govern the electric charges of all customers currently on an electric schedule where the rates are predicated upon some demand feature, and where the customer's monthly maximum demands are greater than 1,000 kW. In general, that means customers presently served under Schedules Nos. TOU-8 and A-7, and possibly three customers currently being served under Schedule No. PA-2. Where there are customers being served under other schedules whose charges for electricity would be lower under any of the proposed schedules, it is contemplated that those customers could shift to the TOU schedule. The proposals would not supersede any schedules applicable to street lighting maintained by applicant.

A demand of 1,000 to 5,000 kW represents a substantial usage of electricity. Aside from industrial customers having a large usage, some of the types of customers that would be affected by the rate proposals are very large department stores, large supermarkets, large hotels and motels, and water utilities.

The objective sought to be achieved by TOU rates is a shift in electrical usage from peak periods of high demand to times of lesser demand so as to improve load factors on existing electrical plant and thereby possibly negate or postpone the necessity of construction of high-cost additional plant; in other words, to promote optimum use and efficiency of existing plant. The rate schedules define the times of high, medium, and low demands of electrical usage as:

On-peak: 12 noon to 6 p.m. summer weekdays except holidays. 5 p.m. to 10 p.m. winter weekdays except holidays.

Mid-peak: 8 a.m. to 12 noon and 6 p.m. to 10 p.m. summer weekdays except holidays. 8 a.m. to 5 p.m. winter weekdays except holidays.

Off-peak: All other hours and holidays.

The monthly charge to the customer has three components: a customer charge which is fixed and does not vary with electricity used, a demand charge, and an energy charge. Under the TOU schedules the rates for the demand component are very high for on-peak, very low for mid-peak, and no charge for off-peak. The rates for the energy component are lowest for off-peak, higher for mid-peak, and still higher for on-peak. Keeping in mind that it is the intention of all of the various rate schedules proposed that they will recover no more and no less gross revenue from the total class of customers involved than is recovered from current rate schedules, it is readily apparent that under TOU schedules the customer having a constant and steady electrical load throughout the entire 24 hours of the day will have a lower electric bill than under present rates with the same electric usage; and that the customer who uses electric energy mainly during on-peak hours will have a higher electric bill than formerly. The amount of difference will depend upon the spread of the rates for on-peak, mid-peak, and off-peak, as well as the amount of the customer charge component.

California Hotel and Motel Association (CHMA) presented testimony that hotels and motels have achieved success in self-implemented energy conservation programs with respect to the use of energy which is under the control of hotel-motel management. However, CHMA alleged that most of a hotel's use of electricity is not under the control of the hotel itself but is related to the demands of the guest. The electricity in the rooms for lighting or use of appliances such as television, the use of electricity in meeting rooms, and the use of power in the restaurants and lounges are at the times when the guests decide to utilize those facilities. Certain uses of electricity are required by municipal regulations, such as for ventilation and lighting in common areas. It is CHMA's position that hotels and motels have little or no ability to shift the use of electricity to off-peak periods and therefore TOU rate schedules should not be made applicable to them.

It may be true that management of hotels and motels has very little control over the TOU of electricity in their business; however, any implication that the predominant use of electricity there is during on-peak hours is not true. One need only look at the definition of on-peak to see such is not the case. As a matter of fact it was shown that at least one hotel (Beverly Hilton) would have a reduction in charges under applicant's proposal. A witness for CHMA stated that there is a great deal of individualism in hotels because they are made up of different activities within them. Keeping in mind that we are here concerned with customers having electricity demands in excess of 1,000 kW, the hotels and motels we are considering are likely to have ballrooms and other night-life facilities which would be utilized during off-peak hours. There is no evidence that motels and hotels with demands in excess of 1,000 kW, as a class, would be any more adversely affected by TOU rates than some other classes of customers. It must

be kept in mind that to the extent that any customer or class of customers are able to shift, and do shift, their energy loads from on-peak to mid-peak or off-peak, all customers, including the hotels and motels, will benefit by having more energy available during on-peak from existing generating facilities. The application of TOU schedules to hotels and motels will not be unjust, discriminatory, nor unreasonable.

The Western Municipal Water District of Riverside County (District) supplies water to more than 43,000 acres of which 6,525 are planted for agricultural use. All water delivered is pumped with lifts ranging from 250 feet to more than 1,000 feet. It operates an intake and treatment plant, 16 pumping plants having a total of 42 pumps, 17 storage tanks having a capacity of 38 million gallons, and 138 miles of pipeline with diameters up to 42 inches. About 88 percent of the total water provided is for irrigation customers. Almost 85 percent of the District's power is purchased from applicant under Schedules Nos. A-7 and PA-2. In 1968 and 1969 the District installed time programmers on its pumps in order to take full advantage of the off-peak rates in Schedule No. A-7; however, since then demand for irrigation water has increased to such an extent that it has been necessary to operate the pumps on a nearly continuous basis during summer. During the period July 1, 1977 through September 30, 1977, the irrigation pumps operated at an average monthly load factor of 88 percent.

District asserts that the concept of leveling demands by price incentives for off-peak power use and constant rate use to gain maximum use of the capital investment is sound. It does have some concern regarding the practical effects of initiating such a program other than on a voluntary basis. There are some enterprises, such as a water works, where there are design and technological capabilities for construction of plant whereby on-peak electrical use can be minimized and off-peak use maximized. The basic

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criterion of whether such design and construction is acceptable is purely an economic one, namely, whether the capital required for that plant design can be recovered by cost savings from resultant efficiencies. In some instances, more often in connection with the construction of a completely new system, the additional investment is economically sound; but in many other instances, such as modification of an existing system, the potential economies do not warrant the major capital cost involved. District contends that presently the latter is the case with it and most existing water systems. In its case very significant modifications to existing plant would be required necessitating a large capital outlay. In 1979 the District anticipates obtaining a new source of water supply and will have to plan the design of pumps, transmission mains, and other appurtenances to connect it into its system. It can design and construct the project, at a somewhat higher capital cost, to pump the water from the new source to storage during the eight-hour off-peak and draw on that storage during the on-peak and mid-peak hours. It desires some assurance that the proposed TOU rate design is going to last for some period of time. One of the possibilities is that the objective of TOU rates will be achieved so that the utility will have a level load over the 24 hours of the day. If and when that occurs the TOU rate structure may be abandoned in favor of a single rate structure to maintain that condition. If that situation occurs within 4 or 5, or even 10 years from now, it is uncertain whether the savings in the cost of electricity will have fully covered the cost of the capital required for the construction necessary for off-peak pumping.

Neither the Commission nor anyone else can guarantee what will or will not happen 10 years hence. There is always a possibility that a technological breakthrough will suddenly occur which will substantially lessen or even eliminate a demand for utility furnished electricity. While the objective of TOU rates is towards leveling

the load and demand, it is doubtful that the objective will ever be completely achieved. The great mass of people have a tradition or heritage of sleeping, eating, working, and being entertained at particular times of day and the services for the people are predicated upon that tradition. Unless some calamity greater than an outrageous price of energy forces a break in that tradition, on-peaks, mid-peaks, and off-peaks of demands and usages of electricity may be expected to continue to occur more or less at the times they now occur. As we see it, all indications are that the future portends a continuing need for price incentives, and indeed perhaps greater incentives, to shift electricity demands and usage to present off-peak hours. ✓

With respect to District's suggestion that the Commission consider proceeding gradually with the implementation of TOU rate design by making such rates voluntary, we point out that the implementation is being done gradually. On March 16, 1976, the Commission in its Decision No. 85559 adopted the policy of TOU rate schedules. The first implementation by applicant was on September 14, 1977, when it filed Schedule No. TOU-8 applicable to demands exceeding 5,000 kW. We are now on the second step. The third step of consideration of schedules for lesser demands and usage will take place later.

California Retailers Association (Retailers) does not oppose the concept of TOU rate schedules. It presented evidence that the assumed 5 percent shift of energy use from on-peak to mid-peak and off-peak will not be realized from the department stores and supermarkets. For stores and office buildings electricity is used as follows: lighting - 60 percent, air conditioning - 25 percent, vertical transportation and miscellaneous - 15 percent. For grocery



stores (supermarkets) use is refrigeration - 55 percent, air conditioning - 15 percent, lighting - 30 percent. Stores and markets are open when the customers desire to shop ~~which is during on-peak and mid-peak. It is during those~~ hours that the use of electricity for air conditioning, vertical transportation, and most of the lighting occurs. The refrigeration units in markets necessarily must be operated continuously. Because of those circumstances Retailers believes that any estimate of a shift in electricity from on-peak cannot be reliable. It suggests that the TOU rate schedule be designed to return revenues that would be received under present rates without any adjustment for shift in usage. Realizing that some shifts may occur, Retailers suggests adoption of a revenue equalization clause as a mechanism which would provide for periodic rate adjustments designed to compensate the utility for any snift-related revenue losses. With respect to any such losses, Retailers contends that it should be recovered from all customers on the system and not merely from those subject to the TOU rates. It reasons that the benefits of the leveling of demands that are intended from TOU rates flow through to all customers so that all customers should also contribute to the cost of achieving those benefits.

The staff and applicant agree that the design of TOU rates for customers with demands between 1,000 and 5,000 kW should be governed by these criteria:

- A. Recovery of approximately the same revenues as are currently being received from customers that will be subject to the new tariff;
- B. Compatibility with related rate schedules that may also be available to the customers subject to the new tariff; and
- C. Adherence to guidelines established by Decision No. 87744 which established applicant's Schedule No. TOU-8, as follows:
  1. The same time-of-day on-peak, mid-peak, and off-peak periods as currently defined in Schedule No. TOU-8;
  2. The same summer-winter season definitions as in Schedule No. TOU-8;

3. Identification of separate customer, demand, and energy charges;
4. Separate on-peak, mid-peak, and off-peak rates for both demand and energy; and
5. Five percent reduction of on-peak demand and energy to be shifted to mid-peak and off-peak periods.

Applicant presented two different schedules but the one it recommends is its Alternate 1 set forth in Exhibit 4. The staff presented four different schedules but it recommends the adoption of its Alternate B. Retailers presented one schedule which it recommends. The forms of the proposed schedules are similar but they differ in certain respects. Applicant proposes one rate schedule (TOU-8) for all demands over 1,000 kW. Its proposal is the present Schedule No. TOU-8 with different rates and with modifications regarding delivered voltage and voltage discounts so as to be compatible with the present rules in Schedule No. A-7. Retailers proposes one schedule for demands over 1,000 kW, but there are two separate customer charge rate factors, one for 1,000 to 5,000 kW and another for over 5,000 kW. The staff proposes that the present Schedule No. TOU-8 continue to apply to demands in excess of 5,000 kW and proposes a separate schedule of rates to apply to demands between 1,000 and 5,000 kW. Comparisons of those proposed schedules are set forth below.

Comparison of TOU Rate Schedule Proposals

	<u>Applicant</u>	<u>Retailers</u>	<u>Staff*</u>
Customer Charge			
1M - 5M kW	\$940	\$ 500	\$250
Over 5M kW	940	1,320	*
Demand Charge			
On-peak, per kW	\$2.50	\$2.19	\$2.70
Mid-peak, per kW	.25	.25	.25
Off-peak, per kW	No Charge	No Charge	No Charge
Energy Charge			
On-peak, per kW	1.40¢	1.401¢	1.41¢
Mid-peak, per kW	1.25	1.251	1.26
Off-peak, per kW	1.10	1.101	1.11

\* The staff rates apply only to demands between 1M - 5M kW, for over 5M kW the staff recommends that the present Schedule No. TOU-8 apply.

Applicant's proposal meets all of the criteria stated above. Retailers' proposal would recover the same revenues as are currently received only if there is no shift in usage, and it calls for an \$820 difference in rate at the magic number of 5,000 kW. The staff's proposal presents substantial problems of compatibility.

The principal problem with having more than one TOU demand schedule is the crossover or break-back that necessarily results. Rule 12 of applicant's tariff, in effect, allows customers to choose any rate schedule which may be more beneficial to the customer and thus would allow a customer now on Schedule No. A-7 rates to choose between the staff's proposed Schedule No. TOU-7 and the presently effective Schedule No. TOU-8. The crossover point between those schedules is 832 kW. It was shown that in a sample of 25 customers on Schedule No. A-7, 12 would have a lower average bill on the present Schedule No. TOU-8 than under the staff proposal; in other words, almost half of the customers for whom the schedule is designed would use a different (TOU-8) schedule. Also, the staff proposed Schedule

No. TOU-7 would break back to Schedule No. A-7. Out of a sample of 23 customers whose demands are between 450 and 1,000 kW, 22 would have a lower bill under the staff's proposed rates than under Schedule No. A-7. Those circumstances would indicate that the staff's proposal may not return as much revenue as it had estimated. But beyond that, keeping in mind that Rule 12 permits the customer the option of changing schedules only to a new or revised schedule or at intervals of not less than 12 months, the staff proposal could result in two customers with identical demands and usages paying entirely different rates for a period up to 12 months.

Retailers' proposal does not present as great a problem in connection with crossovers or break-back, the only problem with the two different customer charges being the sudden change in rates amounting to \$820 in the transition. What would present more of a problem is that Retailers' schedule provides for what it calls "base rates" which would produce equivalent revenues if there is no shift in demand or usage from on-peak. The reduction in revenues that would result from a "shift" are proposed to be recaptured by means of a Revenue Equalization Clause (REC). The proposed REC would provide for quarterly adjustments in rates under which the sum of the revenue which would have been billed under the TOU rates for the proportions of on-peak, mid-peak, and off-peak demands and usage for the 12 months preceding the effective date of the TCU schedule, less the revenue actually billed, divided by the total jurisdictional kilowatt-hour sales during the adjustment period.

Retailers' proposal of the level of rates and REC consider that no one can forecast with certainty the amount of shift from on-peak that will result from TOU rate schedules, and therefore, some adjustment mechanism will be necessary; and that an adjustment mechanism should be established which would spread the revenue deficiency resulting from any shift among all ratepayers. It is true

that a prediction of the precise amount of shift is uncertain. The evidence shows that in the cases of some enterprises the nature of their businesses is such that any significant change in TOU of electricity is not probable; in connection with other businesses shift could occur only upon expensive modifications which would be justified economically when the differences in rate levels for on-peak, mid-peak, and off-peak usage become such that the savings resulting from a switch will more than offset the capital costs of the modifications. In the latter case the rate levels themselves will influence the amount of switch from on-peak. There are still other enterprises that can make a switch in usage with a small outlay of capital. Admittedly, any estimate thereon necessarily would be imprecise; however, applicant's and the staff's estimate of a five percent switch is not without support and is as good an estimate as any that can be made until data from actual experience in the application of TOU rates to customers with demands between 1,000 and 5,000 kW is obtained. At the time of hearing applicant's Schedule No. TOU-8 had been effective too short a time to provide it with any data regarding shift from on-peak. PG&E had experienced a shift of about five percent as a result of its TOU rates applicable to demands in excess of 4,000 kW. It must be recognized that this is a transition and is only one step in the transition to a new type of rate structure.

The principal difficulty with Retailers' proposal is that it could not function without REC, and we believe that further expansion of balancing accounts and revenue recapture clauses other than for temporary emergency purposes (Prop. 13 balancing accounts) or for adjustments for continuing radical changes in costs (such as ECAC) may not necessarily be in the public interest or in the utilities' interest. Furthermore, an establishment of a balancing account system for individual rate schedules would present new accounting problems as well as compound existing difficulties in connection with present balancing account adjustment mechanisms. On

balance, we believe that the disadvantages embedded in Retailers' proposal outweigh the disadvantage of the fact that the five percent estimate of shift is not an assured figure.

One of the objections to applicant's proposal is that the proposed customer charge of \$940 for all customers having demands in excess of 1,000 kW does not give consideration to the difference in average customer costs of the class having demands between 1,000 and 5,000 kW. from the average customer costs of the class of customers with demands in excess of 5,000 kW. Inherent in this contention is the implication that in the spectrum of customers with demands over 1,000 kW that there is a sudden change in customer costs at the magic number of 5,000 kW. That, of course, is not the case. That number has significance only historically as a point for distinguishing large users of power from very large users of power. The dividing line established by PG&E was 4,000 kW. The customer charge component in the rates does not, and was not intended to, fully compensate the utility for all costs to it unrelated to the demands or usage by the customer. At the time of hearings concerning the establishment of Schedule No. TOU-8 the customer costs were estimated at over \$1,800 for those customers to whom that schedule would apply. The customer charge component was fixed at \$800. While costs are a consideration in ratemaking, they are not the only consideration. If they were, the utility would have to develop a separate rate for each and every customer and publish it in its tariff. The purpose of a rate structure is to provide rates simple of application which will spread the total cost burden fairly and equitably among the customers. In the end result the 1,000 kW customer is not being treated unfairly. While his

proportionate share per kW of customer charge would be higher than the 5,000 kW customer, his energy charge per kWh is lower than if treated separately by reason of the contribution of the 5,000 kW customer. Actually, this circumstance readily may be perceived by the fact that where the staff attempted to provide separate schedules a great many of the customers for whom the schedules were designed would have found it more beneficial to them to change to the present Schedule No. TOU-8 applicable to very large users. ✓

Overall, we believe that applicant's proposal set forth in Exhibit 4 is the best of all of the rate proposals presented here for the second step in the implementation of TCU pricing tariffs applicable to customers with demands in excess of 1,000 kW. The customer with a high load factor will incur little if any change in charges. The low load factor customer with high usage on-peak will have a significantly higher electric bill but that is what is intended, an incentive to shift on-peak demand to mid-peak and off-peak.

One other point requires discussion. Applicant proposes to continue to serve these customers with magnetic tape cassette recording demand meters. Those recordings have to be interfaced with a computer to develop the consumption readout. The meters do not have a visual readout of demand nor will they indicate when the peak demand occurred. Demand at any given time may be ascertained from the meter by timing the meter with a stopwatch and making a calculation by means of a formula. CHMA contends that if TCU rates are to create any incentive at all for customers to shift, the demand meter must be able to be read visually by that customer. The meter need not be elaborate, but a customer faced with a rate schedule must be able to determine readily what his current demand is so that he can anticipate the growth and do something about it. CHMA asserts that the stopwatch and formula calculation is not only cumbersome but obviously requires a certain degree of expertise that may not

be attributed to the customer. The staff and CRA did not take a position with respect to this issue. Applicant contends that the stopwatch and formula calculation method is a simple one requiring no expertise and that the only specific advantage of a visual type meter over the magnetic recording meter is that it records past demand for a customer. It is applicant's contention that any benefits to a customer from a visual type demand meter, which allows the customer to read his present demand without the use of a stopwatch, would be outweighed by the increased costs associated with installation of such meters.

There is validity to both contentions. It is axiomatic that a customer should have means at his disposal to determine or audit the amount of service for which he is being charged. At the same time the installation of visual type demand meters will result in higher costs for which the utility is entitled to compensation. This record shows that in some instances the nature of the customer's business is such that he has no control whatever of TCU of electrical demand or usage. In those instances a visual type demand meter would provide the customer with no real benefit. In other instances where the customer does have control of demand and usage, the determination of economic usage, and the design of plant systems for economic production, will necessitate frequent readouts and logging of demands. The stopwatch and computation method would be cumbersome and inadequate in those instances. We are of the opinion that the utility has the duty to provide some kind of visual display where the customer desires one in order to plan his electrical consumption to his greatest benefit under the TOU rate schedules as customers cannot respond to the TOU schedule unless they have appropriate information. At the same time, however, those customers who would have no practical use for such display need not be provided with it. In the circumstances the fair thing to do is to require the utility to make a tariff filing which would provide that visual display will be furnished at the option of the customer. The



utility should recover the additional expense of this service through rates in this schedule. There is nothing in this record which indicates what that differential in cost is; nor is there any evidence regarding the availability of visual display of demand. We will require applicant to furnish such visual display upon request of the customer. Because the availability of visual demand display or meters with such display capability is not of record, we will require applicant to file a tariff rule setting forth the time within which a visual display or meter will be furnished and installed after request. The tariff filings should be by advice letter which should include evidence of the costs of the equipment including the costs of the magnetic recording type meters now in use and evidence regarding the availability of visual demand display equipment or meters.

CHMA suggests that the TCU rates not be made effective until visual type demand meters are actually installed. We do not consider that to be necessary in light of our conclusion that such metering be optional with the customer and our requirement that such meters be furnished a reasonably short time after request.

On December 12, 1978, the Commission entered its Decision No. 89711, in Application No. 57602, the general rate case of applicant which was under submission concurrently with the application herein. We therein provided for increases in electric rates and also modified the energy charge components to provide for

a basic energy charge to which is to be added an Energy Cost Adjustment Billing Factor (ECABF). At the time of our consideration of that decision we were cognizant of the problems recited herein regarding the establishment of a fair and reasonable TOU rate structure applicable to customers with maximum demands of between 1,000 and 5,000 kW which would return to the utility the same amount of revenue that would be generated under Schedule No. A-7. One of our objectives therein was to attempt to provide a structure of rates generally compatible with any of the proposals herein and which would not require substantial modification by reason of any of these proposals. Schedule No. A-7 adopted in Decision No. 89711 should generate approximately \$238,600,000 gross revenue from customers with maximum demands between 1,000 and 5,000 kW. The gross revenues which would be generated from those same customers under the Schedule No. TOU-8 prescribed in that decision, giving consideration to a five percent shift in demand and usage from on-peak and consideration to the revised rules for voltage discounts proposed by applicant herein, will be approximately \$238,500,000. The margin of error in those estimates is \$100,000 more or less.

Our order herein will provide for the filing of tariff pages which will modify the "Special Conditions" in Schedule No. TOU-8 to conform with those provided in Exhibit 4 (Applicant's Proposal Alternative 1) and to make such schedule applicable to customers whose monthly maximum demand exceeds 1,000 kW for any 3 months during the preceding 12 months.

#### Findings

1. After investigation the Commission on March 16, 1976, issued its Decision No. 85559 in which it ordered electric utilities to file specific TOU pricing tariffs covering large usage customers for whom substantially all the necessary metering equipment had already been installed, and to install additional metering for customers with very high usage in order to permit the use of TOU schedules with respect to such customers.

2. By Decision No. 87744, dated August 27, 1977, the Commission ordered applicant to file a TOU tariff schedule as set forth in Appendix A of said decision that would replace Schedule No. A-8 and be applicable to customers with monthly maximum demands exceeding 5,000 kW. Applicant filed such schedule (TOU-8) which became effective as to each individual customer with the first regularly scheduled meter reading of that customer taken on and after October 14, 1977. ✓

3. On October 26, 1976, the Commission issued Decision No. 86543 requiring applicant to file specific TOU tariffs for customers with demands greater than 1,000 kW. Pursuant to such order applicant filed the application herein.

4. Customers served by applicant with monthly maximum demands between 1,000 and 5,000 kW include, among others, industrial firms, very large retail establishments, very large hotels and motels, and water utilities.

5. TOU of electricity, and the demand therefor, by retail establishments, hotels, and motels is largely governed by the demands and requirements of their clientele and is governed by the TOU of the facilities that individual businesses within that group provide their customers. Managers of those businesses allegedly have very little, if any, ability to control the time of their customers' electrical use and demand. ✓

6. For some types of businesses, in order for them to shift on-peak electrical loads to mid-peak or off-peak, substantial modifications to existing plant would be required necessitating a large capital outlay. The justification for such capital outlay would result only where the cost of the capital can be amortized over a reasonable period by savings in energy costs that will result from the switching of TOU. The incentive to make such switch depends upon the amount of capital involved, the amount of savings in energy demand costs involved, and the prospect that the TOU schedules will remain in effect for a reasonable future period so as to permit amortization of the investment. ✓

7. Applicant has not had sufficient experience with TOU schedules which would provide data from which it may be determined the amount of switch from on-peak use and demand that would result from the establishment of a TOU pricing tariff applicable to customers with monthly maximum demands exceeding 1,000 kW.

8. Applicant and the staff obtained data from PG&E of the switch from on-peak demand resulting from the establishment of a TOU electric pricing tariff applicable to customers with demands exceeding 4,000 kW. The data furnished indicate that the shift from on-peak demand is approaching five percent. ✓

9. Applicant's TOU pricing tariff proposal set forth in Exhibit 4, and described as its Alternate 1, will recover approximately the same revenues as are currently being received from customers that will be subject to that tariff; it is compatible with related rate schedules that may also be available to the customers that would be subject to that tariff; and it conforms to TOU rate structure guidelines established by the Commission in Decision No. 87744:

1. The same time-of-day on-peak, mid-peak, and off-peak periods as currently defined in Schedule No. TOU-8;
2. The same summer-winter season definitions as in the current Schedule No. TOU-8;
3. Identification of separate customer, demand, and energy charges;
4. Separate on-peak, mid-peak, and off-peak rates for both demand and energy; and
5. Five percent reduction of on-peak demand and energy. This energy shifted to mid-peak and off-peak periods.

10. Applicant's rate proposal set forth in Exhibit 4 provides incentives for a shift in customer use and demand of electricity of approximately five percent from on-peak usage.

11. The staff's rate proposals are not compatible with other rate schedules that may also be available to customers that would be subject to those proposals.

12. Retailers' proposal does not give consideration to loss of revenues resulting from a shift in electrical usage and demand, other than by application of a revenue equalization clause mechanism which would cause unnecessary additional accounting problems and expense.

13. Applicant proposes to continue metering customers with monthly maximum demands exceeding 1,000 kW with magnetic recording meters which do not provide a visual readout. Such meters will be adequate for certain customers who have no control over the TOU of electrical demand or usage; however, they may not be adequate or convenient for the needs of other customers. ✓

14. By Decision No. 89711, dated December 12, 1978, in Application No. 57602, the Commission prescribed a general adjustment in applicant's electric rates. The rates in Schedule No. TOU-8 applicable to monthly maximum demands in excess of 5,000 kW, and the rates in Schedule No. A-7 applicable to demands in excess of 200 kW were increased. The relationship between those increased rate scales results in the condition that the revenues which would be derived under Schedule No. A-7 from customers having monthly maximum demands of between 1,000 and 5,000 kW would be approximately the same as the total revenue that would be derived from those same customers if there is a shift of five percent in demand and use from on-peak periods to mid-peak and off-peak under Schedule D, No. TOU-8. ✓

15. Except as to rules for application, delivered voltage, and voltage discount, Schedule No. TOU-8 established in Decision No. 89711 has the same structure and format as those in applicant's proposed Alternate 1 schedule set forth in Exhibit 4; and the application of said Schedule No. TOU-8 to customers with monthly maximum demands in excess of 1,000 kW will be compatible with related rate schedules that may also be available to the customers that would be subject to the tariff, and conforms to TOU rate structure guidelines established by the Commission in Decision No. 87744.

16. With modifications in rules for application, voltage delivery, and voltage discount provided in Exhibit 4, the rates provided in Schedule No. TOU-8 established in Decision No. 89711 are, and for the future will be, just and reasonable rates for application to customers with monthly maximum demands in excess of 1,000 kW.

17. Although the rates in Schedule No. TOU-8 will return approximately the same revenues as the rates in Schedule No. A-7 from customers having monthly maximum demands in excess of 1,000 kW ✓ and whose electrical service is now subject to said Schedule No. A-7, the application of the TOU rates in Schedule No. TOU-8 to those customers will result in some customers incurring increases in their charges for electricity. Those increases are justified.

18. There is no evidence of the availability of visual type demand meters nor any evidence of the difference in cost, if any, of such meters as compared to the cost of the magnetic recording demand meter currently being utilized by applicant.

19. It is applicant's practice to read the meters of the customers affected on different days during the month. It would be impractical for applicant to make meter readings of all such customers on the same date.

Conclusions

1. Applicant should be directed to establish TOU rates applicable to large users with monthly maximum demands greater than 1,000 kW by filing and maintaining the rates, charges, and rules set forth in the schedule in Appendix A attached to this decision.

2. Applicant should be authorized to establish the aforesaid rate schedule to become effective on not less than thirty days' notice to the Commission and to the public, and to make said rates effective as to individual customers on the date of the reading of the customer's meter pursuant to applicant's regular and usual schedule on and after the effective date of the tariff schedule.

3. Applicant should be required to furnish a visual type demand meter or display equipment upon request of a customer governed by the rules in the tariff schedule to be established. In connection with such requirement, applicant should be directed to establish in its tariff a rule prescribing the time within which such meter will be furnished after request, subject to availability; and applicant should recover the costs of providing this equipment through rates provided in this schedule.

4. In all other respects Application No. 57653 should be denied.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company is directed to file with the Commission, not later than thirty days after the effective date of this order, in conformity with the provisions of General Order No. 96-A, revised tariff schedules with rates, charges, and conditions modified as set forth in Appendix A attached to this order and, on not less than thirty days' notice to the public and to the Commission, to make the revised tariffs effective. It is authorized to make such rates effective as to the individual customers affected on the dates of the reading of the customer's meter on or after the effective date of the tariff.

2. Southern California Edison Company shall furnish a visual type demand meter or display equipment as the supply thereof becomes available to any service governed by its Schedule No. TOU-8 upon request of the customer, and it shall amend its Schedule No. TOU-8 to specify that such visual type demand meter or display equipment will be furnished and installed within one hundred eighty days after request by the customer.



*wp* 3. Tariff filings required or authorized by paragraphs 2 ✓  
and 3 of this order shall be made by advice letter, and such  
letter shall set forth the data upon which the specific rules and  
charges set forth therein are based.

4. In all other respects Application No. 57653 is denied. ✓  
The effective date of this order shall be thirty days  
after the date hereof.

Dated at San Francisco, California, this 10<sup>th</sup>  
day of April, 1979.

John E. Bryn  
President  
Henry L. Sturgeon  
Charles D. Howell  
Charles D. DeLoach  
James W. Smith  
Commissioners

APPENDIX A  
Page 1 of 3

Schedule No. TOU-8  
GENERAL SERVICE - LARGE

APPLICABILITY

Applicable to three-phase general service, including lighting and power.

This schedule is applicable for all customers of record on April 10, 1979, the date of the decision in Application No. 57653, and thereafter whose monthly maximum demand exceeds 1,000 kw for any three months during the preceding 12 months. Any customer whose monthly maximum demand has fallen below 900 kw for 12 consecutive months may elect to take service on any other applicable schedule.

TERRITORY

Within the entire territory served, excluding Santa Catalina Island.

RATES

	<u>Per Meter</u> <u>Per Month</u>
Customer Charge .....	\$1,075.00
<b>Demand Charge (to be added to Customer Charge):</b>	
All kW of on-peak billing demand, per kW ..	5.05
Plus all kW of mid-peak billing demand, per kW .....	0.65
Plus all kW of off-peak billing demand, per kW .....	No Charge
<b>Energy Charge (to be added to Demand Charge):</b>	
All on-peak kWh, per kWh .....	0.530¢
Plus all mid-peak kWh, per kWh .....	0.380¢
Plus all off-peak kWh, per kWh .....	0.230¢

APPENDIX A  
Page 2 of 3

Schedule No. TOU-8  
GENERAL SERVICE - LARGE (Continued)

RATES (Continued)

Minimum Charge:

The monthly minimum charge shall be the sum of the monthly Customer and Demand Charges. The monthly Demand Charge shall be not less than the charge for 25% of the maximum on-peak demand established during the preceding 11 months.

Daily time periods will be based on Pacific Standard Time and are defined as follows:

- On-peak: 12:00 noon to 6:00 p.m. summer weekdays except holidays.  
5:00 p.m. to 10:00 p.m. winter weekdays except holidays.
- Mid-peak: 8:00 a.m. to 12:00 noon and 6:00 p.m. to 10:00 p.m. summer weekdays except holidays.  
8:00 a.m. to 5:00 p.m. winter weekdays except holidays.
- Off-peak: All other hours.

Off-peak holidays are New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas.

For initial implementation of this schedule by the Company, winter shall consist of the billing periods for the six regularly scheduled monthly billings beginning with the first regularly scheduled billing ending after November 14, 1977. Thereafter, regularly scheduled monthly billings shall include six summer billing periods followed by six winter billing periods. In no event will winter include scheduled billing periods ending after May 31 of any year.

APPENDIX A  
Page 3 of 3

Schedule No. TOU-8  
GENERAL SERVICE - LARGE (Continued)

SPECIAL CONDITIONS

Voltage Discount: The charges before power factor adjustment will be reduced by 3% for service delivered and metered at voltages of from 2 kV to 10 kV; by 4% for service delivered and metered at voltages of from 11 kV to 50 kV; and by 5% for service delivered and metered at voltages over 50 kV; except that when only one transformation from a transmission voltage level is involved, a customer normally entitled to a 3% discount will be entitled to a 4% discount.