

ORIGINAL

Decision No. 91497 APR 2 1980

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Power & Light Company for Authority to Institute a Home Insulation Assistance and Financing Program.

Application No. 59309 (Filed November 30, 1979)

George M. Galloway, Attorney at Law, for Pacific Power & Light Company, applicant.  
Thomas M. Ducev, for himself, protestant.  
Joseph J. Honick, for Insulation Contractors Association; Forrest W. Godfrey, for Del Norte Municipal League; and Edward L. Ackerman, for himself; interested parties.  
Richard D. Rosenberg, Attorney at Law, Walter Cavagnaro, and Brian Schumacher, for the Commission Staff.

O P I N I O N

I. Introduction and Synopsis

On November 30, 1979, Pacific Power & Light Company (Pacific or applicant) filed its application requesting the Commission:

1. To approve Pacific's proposed residential insulation assistance and financing program pursuant to Section 2783 of the Public Utilities Code.
2. To find that the proposed service will not constitute undue or unreasonable discrimination in violation of California law, including Section 453 of the Public Utilities Code.
3. To approve Pacific's proposed accounting and ratemaking treatment of the costs associated with the proposed service.

After publication and posting of the notice of hearing public hearings were held before Administrative Law Judge Cline

in Crescent City on January 3, 4, and 24, 1980. The matter was taken under submission on the filing of late-filed Exhibit No. 9 and the written statement of the Insulation Contractors Association (ICA) on February 4, 1980. ✓

The cost of electricity has risen dramatically. This is due to rapidly increasing oil prices and the high cost of constructing new generation facilities. Conservation provides a new source of energy in that it reduces a utility's dependence on high priced oil and reduces the need for construction of new generating capacity. An integral part of any overall construction program is the retrofitting of insulation and weatherization in residences.

This opinion approves what is commonly referred to as "zero-interest financing" for retrofit residential insulation and weatherization. The plan applies to single-family residences and duplexes to which Pacific furnished power for electric space heating prior to November 30, 1979. The owners of such residences may request Pacific to conduct Home Energy Analyses to determine what additional insulation and weatherization improvements should be made to the residences. Then if the owners consent, Pacific will contract and pay for such improvements. The homeowners' only financial obligation will be to repay Pacific, without interest, the cost of the insulation and weatherization improvements at such time as the ownership of the residences are transferred, and in any event by making monthly installment payments equal to 1% of the installed cost, rounded to the nearest \$5 nominal amount, commencing ten years after the completion of the insulation and weatherization improvements. The minimum monthly payments are \$5. Transfers to certain specified close relatives will not trigger the full repayment provisions of the contracts, but the monthly installment payments will be collected after the ten-year period has elapsed.

Pacific estimates that there are approximately 4,200 electrically heated single-family dwellings and duplexes in its California service territory whose insulation and weatherization could be cost effective. Pacific further estimates that retrofitting

these homes with cost-effective insulation and weatherization will cost approximately \$5,700,000 and will recapture approximately 550,000,000 kWh over the 25-year expected life of the insulation. At 56 mills per kWh the 550,000,000 kWh saved amounts to \$30,800,000 which compares very favorably to the \$5,700,000 estimated cost of insulating and weatherizing the homes. ✓

## II. Summary of Pacific's Proposal

### A. Insulation and Weatherization Program

Pacific proposes that its personnel, upon the request of a customer occupying a qualifying single-family residence or duplex, will conduct a Home Energy Analysis to determine the cost effectiveness of installing additional insulation and weatherization materials. Homes not served by Pacific on or before November 30, 1979, and homes converted to electric space heating after November 30, 1979 will not qualify. If the analysis indicates that additional insulation or weatherization will be cost effective to Pacific compared to the marginal cost of new energy resources, the available options and their associated costs and benefits will be explained to the homeowner. Insulation and weatherization projects which will be financed if cost effective include:

- (a) Floor insulation (up to R-19).
- (b) Ceiling insulation (up to R-38).
- (c) Storm windows or double glazing.
- (d) Weatherstripping and caulking.
- (e) Duct insulation.
- (f) Additional ventilation, pipe wrapping, and moisture barriers as required by other measures. ✓

If the homeowner consents, Pacific will contract and pay for all labor and materials associated with installing the cost-effective insulation and weatherization materials in the dwelling. The homeowner's only financial obligation will be to repay Pacific, without interest, the cost of the insulation and weatherization improvements, prior to or at such time as ownership of the dwelling is transferred. In addition to being obliged to repay Pacific, the

homeowner will be required to notify Pacific in advance of any sale or transfer of the dwelling. The written agreement between the homeowner and Pacific setting forth their respective obligations will be recorded in the real property records of the county in which the dwelling is located, and a lien will attach in favor of Pacific one day prior to any transfer of the property. The agreements to be executed by the California homeowners will be similar to those which have been executed under a similar program available to Pacific's Oregon homeowners.

All insulation and weatherization work will be done by independent contractors. The contractors will be selected for each job based on competitive bids, and will be required to warrant both materials and workmanship to Pacific and the homeowner. Pacific will inspect each installation to determine if the insulation and weatherization has been installed in a workmanlike manner.

Pacific anticipates that a reasonable time frame for completing the program is five years, assuming a substantial portion of qualifying homeowners elect to participate. Pacific will complete Home Energy Analyses based upon the order in which requests for such analyses are received. If the demand for insulation and weatherization should temporarily exceed the available supply, jobs will be handled in the same order as homeowners agree to have energy-saving materials installed.

Pacific believes that, unless grandfathered, its proposed program may violate the National Energy Conservation Policy Act (NECPA). Specifically, the rate base treatment of loans may violate Section 215(s)(2)A of NECPA and making loans in excess of \$300 is prohibited by Section 216.

Pending the promulgation of a California state plan pursuant to NECPA, Pacific will be free to conduct the program.

Thereafter, absent a waiver or exemption from the United States Department of Energy, the program might have to be discontinued. Pacific believes that the proposed program will satisfy the requirements of a temporary program exemption set forth in Section 218 of NECPA. Pacific therefore proposes that in conjunction with the development of a state plan in California, with the support of the State of California, it seek a temporary exemption pursuant to Section 218 of NECPA.

Pacific currently offers its California residential customers 8% financing for insulation and weatherization. If this application is approved Pacific proposes to discontinue the 8% loan program and offer its customers with outstanding 8% loans the option of converting them to zero-interest loans repayable upon the sale of their dwellings.

Pacific would continue its present practice of supplying, without cost, water heater wraps and shower flow restrictors to its California residential customers.

B. Accounting Treatment

Pacific proposes to charge amounts paid to insulation and weatherization contractors to Account 124, Other Investments. As loans are repaid, the account balance will be correspondingly reduced. Any loans which prove uncollectible will be written off Account 124 and charged to Account 908, Customers' Assistance Expenses. Operating expenses associated with the program, including Pacific's labor, material costs, transportation, and other appropriate charges, will be charged to Account 186, Miscellaneous Deferred Debits, and amortized to Account 908, Customers' Assistance Expenses, over a ten-year period.

C. Ratemaking Treatment

Pacific proposes that for ratemaking purposes expenses associated with the program be charged to Account 186, Miscellaneous Deferred Debits, and amortized over ten years to Account 908, Customers' Assistance Expenses. The ten-year amortization of expenses will also apply to income tax calculations for ratemaking purposes.

All unamortized operating expenses applicable to the program which are charged to Account 186, as well as the insulation and weatherization costs remaining in Account 124, Other Investments, are proposed to be included in Pacific's rate base for ratemaking purposes. All rate base and operating expenses associated with the insulation and weatherization program in California will be assigned directly to California. Pacific's allocation procedure by using various data regarding jurisdictional contribution to coincidental peak and consumption of energy will reflect reduced cost allocations to California for ratemaking purposes based upon achieved conservation.

III. Pacific's Evidence to Justify Approval of the Program and the Accounting and Ratemaking Treatment of Expenses and Investment Related to the Program

Witness Reed, the Vice President of Pacific, testified regarding the truth and correctness of the information set forth in the application.

According to the application, the average number of California customers served by Pacific increased from 23,003 in 1969 to 29,029 in 1978. The average annual kilowatt hour use per California residential customer increased from 12,685 in 1969 to 13,432 in 1978. The energy requirement of Pacific's California general business customers increased from 483,962,000 kilowatt hours in 1969 to 650,342,000 kilowatt hours in 1978. To meet this increasing demand for electric service Pacific has continued to expand the capacity of its own system and has participated in the planning and construction of jointly owned regional facilities with other utilities.

In building new plant, Pacific has been faced with continuously escalating costs. For the period 1960 to 1970, an index of the cost of steam production plant increased at an annual rate of 2.1%. During the period of 1973 to 1978, that same index increased at an annual rate of 12%. There has been a similar escalation in the cost of debt capital needed to finance new construction.

As a consequence of having to meet increased demand at greatly increased unit costs, Pacific's financial condition has been strained and its customers have had to bear numerous rate increases. An effective means of lessening the need for rate increases in the long run is conservation. To the extent that a lesser quantity of production plant is constructed, average cost of generation will not increase as quickly as it otherwise would.

On March 7, 1978, the Commission issued Decision No. 88551 ordering the utilities to implement the home insulation assistance loan program by providing maximum loans of \$500 per single-family residence, or \$2,500 per multiple-unit residential dwelling with a limit of \$400 per multiple-family unit, at 8% per annum with a maximum payback period of sixty months. Various utilities sought judicial review of Decision No. 88551, and on July 11, 1978, the Commission stayed the implementation of the order pending judicial review. Nevertheless, on October 13, 1978, Pacific wrote the Commission and indicated that it was prepared to comply voluntarily with the spirit of Decision No. 88551. Pacific has since offered loans to residential customers up to \$2,000 at 8% interest. In addition, the Congress and the California Legislature have provided additional incentives to Californians by allowing them tax credits to help defray the costs of installing insulation and weatherization materials. Despite these economic incentives, to date only a handful of Pacific's California customers have taken advantage of Pacific's program. Pacific believes that some further action is necessary.

Pacific estimates that there are approximately 4,200 electrically heated single-family dwellings and duplexes in its California service territory whose insulation and weatherization could be cost effective. As long as the cost of producing the energy to be saved through installation of insulation and weatherization is less than the cost of providing equivalent energy through

new production, Pacific's total revenue requirement will be less in the long run. However, because the nonparticipant customer benefits from the program only if the rate per kWh is less than it would have been without the program, the nonparticipant customer can be disadvantaged even if the insulation and weatherization program benefits all the customers taken as a group. Exhibit 5, attached to the application, shows that where the average cost of a weatherization program per kWh saved is 30 mills, far less than the incremental cost of 56 mills per kWh, the nonparticipant group of customers would be better off if the weatherization program were not implemented. Exhibit 6, attached to the application, indicates that given Pacific's current residential nonlifeline tailblock rate of approximately 27 mills, the average lifetime cost of weatherization must be below 28 mills per kWh saved for nonparticipants to benefit in the proposed program.

Pacific's experience in Oregon with its zero-interest program indicates that the lifetime cost of the insulation and weatherization installed there has been significantly below the 28 mills per kWh saved. An analysis of the 2,013 jobs in Oregon shows that the average cost to ratepayers of installing insulation and weatherization materials has been approximately 12 mills per kWh saved. To this figure should be added approximately 2.5 mills per kWh saved to reflect Pacific's cost of administering the program.

In California a determination will be made of whether insulation and weatherization can be installed at a cost to ratepayers of less than 56 mills per kWh cost of new plant. Total program costs will be monitored to assure that the average cost to ratepayers is less than 28 mills per kWh saved to assure that non-participants are not disadvantaged. At such time as Pacific's California electric rates are increased, an approximate new break-even point will be calculated and utilized.



Based on its experience in Oregon, Pacific estimates that retrofitting all the qualified homes in its California service territory with cost-effective insulation and weatherization will cost approximately \$5,700,000 and will recapture approximately 22,000,000 kWh annually, and 550,000,000 kWh over the 25-year expected life of the insulation. At 56 mills per kWh, the 22,000,000 kWh saved annually amount to a saving of \$1,232,000 annually and the 550,000,000 kWh saved over the 25-year expected life of the insulation amount to a total \$30,800,000. These amounts saved compare very favorably to the \$5,700,000 estimated cost of insulating and weatherizing the homes.

Pacific points out that to the extent insulation and weatherization improvements are installed on a cost-effective basis, all of Pacific's customers are better off for two reasons.

1. The average cost of generation is lower than it would be if more expensive plant were built; and
2. Ratepayers support Pacific's investment in insulation and weatherization improvements only until such time as participating homeowners repay Pacific, whereas if Pacific invested in new plant, ratepayers would effectively have to support that plant or its replacement in perpetuity.

Pacific believes that its proposed residential insulation assistance and financing program is in the public interest.

Witness Reed also testified that Pacific's zero-interest financing program has been successful in the four states where the program has been approved and implemented. Since its inception last year, Pacific has caused over 4,000 dwellings to be weatherized with an expected annual saving from these jobs alone in excess of 22 million kWh. In Oregon 3,354 dwellings have been improved at an average cost per dwelling of \$1,365, and an average cost per kWh saved of 12.10 mills (excluding overheads). In Washington the

average cost per kWh saved has been 8.87 mills, in Montana 5.30 mills, and in Idaho 5.02 mills. Pacific's systemwide administrative overhead has averaged approximately 2.5 mills per kWh. These figures compare most favorably with the 56 mills per kWh cost associated with new generating facilities.

Witness Reed testified that a time certain repayment schedule, such as that proposed by the Commission staff witness, would detract from the overall program, would result in fewer participants, and would be counterproductive. Significant additional collection costs would be incurred in making collections after the expiration of the time certain. If the Commission does include a time certain in the program it approves, Pacific recommends the use of a specific minimum monthly payment, a relatively short repayment period after the initial 10-year deferment period, and use of regular monthly electric billing procedures to collect the monthly payments.

John Shue, Manager of Rate Development and Research for Pacific, testified in support of Pacific's application. He stated that the California program should be the same as the Oregon program. Because of the proximity of the two states there will be confusion if the two programs are different. He is opposed to requiring repayment after a specified period of time, such as ten years, because the appeal of the program which will make it a success is that the customer doesn't have to worry about making repayments. He testified that the average savings in utility bills of customers participating in the program is \$12 per month. To the extent that the program lessens future rate increases by reducing the construction of generation facilities, nonparticipants in the program will also benefit.

Mr. Shue testified that R-38 insulation is the practical limit for insulation in attics. If the walls are insulated, the total heat saving might be increased from 5,238 kWh to 6,000 to 7,000 kWh. However, since there is no vapor barrier in an insulated

wall, the installation of insulation in a wall may cause condensation resulting in rot within the wall and deterioration of the insulation material.

Don Grimm, General Manager of Energy and Conservation for Pacific, pointed out that the contractor has an opportunity to deal directly with the homeowner and to get him to upgrade the job if the homeowner wishes to do so. The contractor may inform the homeowner that he is bidding on the job, that his bid may be higher than other bidders, but that the difference in the bid may be because of the higher quality of his work and materials.

The program offers the homeowner the option of going beyond the minimum specifications or not taking the lowest bid provided the homeowner pays the difference in the cost. Probably 10% of the homeowners actually contract for insulation and weatherization work above the minimum bid on the minimum specifications.

Pacific's auditors who survey the insulation and weatherization needs of the homes qualified to participate in the program are on a salary and have no incentive to sell more insulation and weatherization improvements than are actually needed. The auditor doesn't suggest any particular product or denigrate any product that meets the standard specifications. The contractor's warranty of work and materials protects both Pacific and the homeowner. A post-installation inspection of the completed installation is made by Pacific. Pacific is liable to the homeowner under the program only where the damages are caused by its sole negligence.

Where the installation is made by the homeowner on a do-it-yourself basis Pacific will finance the cost of the materials but no labor under the zero-interest financing program. Any building permit fees would be included in the loan.

The homeowners may pay back the loans ahead of time if they wish to do so for any reason.

In Oregon, 2,943 homes have been insulated and weatherized pursuant to the zero-interest program at an average cost of \$1,365 per home or 12.1 mills per kWh saved. Expenditures per home have ranged from \$49 to \$4,714 and the cost per kWh saved has ranged from 1 mill to 42 mills. The plan provides flexibility to contract for insulation and weatherization improvements to individual homes to the full marginal cost of kWh saved, provided the average cost of the program is below the break-even point for nonparticipating customers.

Pacific has already received 28 applications for zero-interest financing since the January 3 or 4 hearings. It will take three to four months to implement the plan in California after approval is obtained from the Commission. The program will be announced by bill inserts.

Pacific's 8% program has been in operation in California for about one year. Only three homeowners have participated so far in the 8% program. Ten others have weatherized their homes under the program but have arranged their own financing.

#### IV. Testimony of Public Witnesses

Three public witnesses testified in support of the application and two public witnesses testified in opposition to the application.

Robert Louis Ducat is a customer of Pacific who resides in Crescent City. As he uses gas for space heating he would not be eligible for a loan under the program. He is interested in the program as an applicator of insulation. He testified that he has done work with his brother under Pacific's program in Klamath Falls, Oregon, and that the program has been working well in Oregon.

Ted Hatzimanolis of Crescent City has lived in Del Norte County for over 25 years and has been a customer of Pacific the entire time. He owns an electrically heated home and would be eligible for

a loan under Pacific's program. He requests that the program be authorized at the earliest possible time.

Forrest W. Godfrey, a resident of Crescent City, is Executive Manager of the Del Norte Municipal League, which is an incorporated, nonprofit taxpayer organization comprised of approximately 275 individual and business members in Del Norte County. He testified on behalf of the members of the Del Norte Municipal League in support of Pacific's proposed home insulation assistance and financing program. He stated that the insulation business for contractors and weatherization product sales organizations in Oregon has never been better than since Pacific's inauguration of its zero-interest program in that state. The program will be especially beneficial to retired homeowners because many of them would not have to repay the loans during their lifetimes. Although some of the loans might be on the books for 25 to 30 years, the average turnover of property in Del Norte County is every four years. He pointed out that if the program is modified to provide for a payback after a ten-year period has elapsed, such modification would hit hardest at the elderly and retired and the low-income homeowners.

Mr. Thomas M. Ducey is a customer of Pacific who owns an all-electric home in Crescent City which has already been insulated. He testified in opposition to Pacific's application to institute a home insulation assistance and zero-interest financing program. He contends that only those who need financial help should be able to qualify for a loan. It is his position that the recipient of the loan should have the option to negotiate the job price with an insulation contractor based upon specifications furnished by Pacific. He pointed out that the program will result in a rate increase after it is instituted and he testified that the results are severely

compromised because the program makes no provision for insulation of the walls. He contends that Pacific's proposal should be rejected and, it should be required to submit a new proposal.

Edward L. Ackerman of Crescent City, a member of the Del Norte County Chapter of the American Association of Retired Persons, also testified in opposition to the application. He pointed out that although the application states that it is not an application for a rate increase, the expenses related to the program will be included in rate increase applications to be filed by Pacific in the future. He testified that approximately 6,000 of the 18,000 persons who live in Del Norte County are 55 years of age and older. In order to reduce their rising heating costs many members of the Association have already weatherized their homes. He contends that Pacific's ratepayers in Del Norte County should not be required to subsidize the costs of insulating the homes of well-to-do property owners.

V. Opposition of Insulation Contractors Association to Pacific's Proposed Program

Joseph Honick, Executive Director of the Insulation Contractors Association, (ICA), testified at the hearing and filed a written statement on behalf of the ICA in opposition to the granting of the application.

ICA urges that the application be denied for the following reasons:

- A. Pacific's proposal moves toward usurpation of the independent insulation contractors' right and capacity to compete freely and fairly in the marketplace.
- B. Pacific's proposal unreasonably discriminates with respect to the rights of individual contractors.
- C. Pacific has failed to prove that the program would be practical in the California marketplace.
- D. Pacific would discriminate against households that do not meet the test of saving money for Pacific.

- E. Pacific's proposal sets the stage for expansion of such programs throughout California and the eventual placement of insulation contractors under direct control of the Commission and the utilities themselves.

ICA points out that the application provides that "the Company will arrange and pay for all labor and materials associated with installing the cost-effective insulation or weatherization materials in the dwelling." ICA contends that such a program will place Pacific in unfair competition with independent insulation contractors for insulation products in times of potential shortages and place the insulation contractor in a subservient position to the utility, even though both are similarly licensed under the California law. ICA points out that the contractors bid to Pacific and not to the customers to get the work and that the contractors assume all liabilities to the consumer and Pacific, even to the point of holding Pacific harmless for work done. Further, Pacific, a C-2 licensed insulation contractor under the laws of the State of California, would exercise the right to inspect the work of the independent insulation contractors who actually perform the work. ICA contends that contractors who do not wish to operate under Pacific's program will have little chance to compete in the same marketplace.

ICA points out the parallel which exists between Pacific's program and other greatly publicized promises of government-supported insulation programs which brought about a recession in the insulation business several years ago.

ICA also points out that Pacific has refused to disclaim any possibility of moving directly into the insulation effort itself.

ICA urges that Pacific's proposal be rejected and the entire concept of retrofitting California residences be rethought with a view to accepting the insulation contractors in an equal, rather than subservient, role to that of the utilities.

VI. Modifications of Pacific's Program Proposed by the Commission Staff

Brian D. Schumacher testified for the Energy Conservation Branch of the Commission that two modifications of Pacific's plan are proposed.

The first modification would require the homeowner whose home has not been sold within a period of ten years after the completion of the weatherization improvements to begin repayment at a fixed low monthly rate, still without interest, and to continue such payments until the loan is repaid or until the unpaid balance of the loan is repaid at the time of a sale of the home. This modification is intended to ensure that repayment of the loan will occur within a reasonable time.

The nominal repayment would be 1% of the installed cost, but not less than \$5 per month. In order that recordkeeping for loan repayment be simplified, the staff recommends that the monthly payment be rounded to the \$5 amount nearest the nominal amount. The average payback period then would be 100 months or 8 1/3 years. In extreme cases, for example, a \$1,245 installation, the required \$10 payment would amortize the loan in 125 months or 10 5/12 years, whereas for a \$1,255 installation the \$15 payment would pay off the loan in just under 7 years.

The staff proposes that the property owner be required to begin to make such monthly repayments only if he or she has been receiving the benefit of the weatherization for 10 years and has no immediate plans to transfer title to the dwelling.

The staff gave an example of the cost effects, assuming that \$1,500 of weatherization work in 1980 saves 5,000 kWh per year. If the home were unsold, repayment of the loan would begin in 1990. If conserved electricity cost the homeowner \$0.05 per kWh at that time, the monthly saving would be \$20.83. The payment of 1% or \$15 per month on the loan would be less than the saving in the electric



bill by reason of the weatherization. The electricity saved by the time the monthly payments would begin would be worth \$2,489 in 1980.

The staff prepared Tables 1 and 2 of Exhibit 5 to show the effect of the proposed 1% monthly loan payment after ten years on the costs of the program to nonparticipants. The tables show that on a \$1,500 home weatherization investment by Pacific the \$1,306 present worth of the cost of carrying the loan could be reduced to \$1,215 by a 1% monthly loan payment after 10 years. The staff anticipates that the proposed modification will result in additional administrative cost to Pacific of about \$10 per year per account during the monthly payment period. Reduced carrying costs due to earlier repayment of the average loan by the homeowner should lead to a net cost decrease to Pacific and its ratepayers.

The staff also recommends that transfers involving close relatives be considered exempt transfers. In the case of such transfers immediate payoff of principal should not be required, but monthly payments should begin ten years after the completion of the weatherization of the home. The term "close relative" would be defined to include the following: husband, wife, father, mother, grandfather, grandmother, son, daughter, brother, or sister, including such relationships brought about by marriage or adoption, such as daughter-in-law, mother-in-law, and step-daughter.

The staff further recommends that Pacific be required to file quarterly reports in a format similar to Exhibit 7, attached to the application which is Exhibit 2 in this proceeding, including data for the current quarter as well as the program to date, along with a derivation of the current mills per kWh saved at ratepayer cost.

In addition, the staff recommends that Pacific be required to file a report of a full cost-effectiveness study of the California program for staff analysis and acceptance prior to Pacific's filing its next application for rate increase. Included in the report should

be a derivation with references of the applicable housing turnover rate by year and derivations of marginal and average costs of electricity as well as data and computations of the type contained in the Energy Conservation Branch report entitled, "Cost Effectiveness and Energy Conservation Policy", dated October 1, 1979.

Walter Cavagnaro of the Policy Unit also testified on behalf of the Commission staff in support of Pacific's proposal with the modifications proposed by witness Schumacher. He pointed out that Pacific's estimate that 4,200 electrically heated homes require weatherization out of the 29,000 homes of customers in Pacific's California service area, clearly justifies special programs to conserve the substantial amounts of energy presently expended unnecessarily. Ratepayers will benefit if the utility benefits in conservation up to the full marginal cost of new energy resources. The nonparticipating customers will benefit in the short run as well as the long run. Witness Cavagnaro recommended that rather than prescribe a uniform plan for weatherization of homes in California that the Commission encourage the utilities to devise approaches that they think are suitable for their own particular service areas and then hold local hearings to get input from the local people with respect to the kind of program they would like to have put into effect. The Commission is encouraging the utilities to devise programs for the development of other renewable resources and is allowing expenditures up to the full marginal cost to develop those resources. Pacific's conservation program will provide equivalent capacity and energy at a much lower price than either conventional resources or the development of other renewable resources. Witness Cavagnaro supports Pacific's proposal to offer weatherization improvements to individual homeowners up to full marginal costs in view of the fact that the overall program costs will still be kept below the break-even point.

VII. Issues

The following issues have been raised by the parties to this proceeding:

- A. Should the repayment of the loans made pursuant to Pacific's proposed zero-interest residential insulation assistance and financing program be opened to the date of transfer for substantial consideration or commence in any event ten years after the completion of the weatherization of the homeowner's residence?
- B. Should transfers to close relatives of residences which have been weatherized under Pacific's proposed program be exempt transfers not requiring repayment of the loans at the time of such transfers?
- C. Should Pacific be required to insulate walls as a part of its proposed weatherization program?
- D. Should Pacific's proposed zero-interest residential insulation assistance and financing program, as modified by the Commission, be approved?
- E. Should Pacific's proposed accounting and ratemaking treatments of the costs associated with the proposed program be approved?

VIII. Discussion of the Issues

A. Should the repayment of the loans made pursuant to Pacific's proposed zero-interest residential insulation assistance and financing program be opened to the date of transfer for substantial consideration or commence in any event ten years after completion of the weatherization of the homeowner's residence?

Pacific has opposed a time certain repayment schedule such as that proposed by the staff on the grounds that such modification of the Pacific's program would increase the cost of the collection of the loans and would result in fewer homeowners participating in the program. Pacific also urges that the California program be substantially the same as its Oregon program to avoid confusion which may result because of the proximity of the California and the Oregon customers to each other. In the event the Commission

does approve a time certain for repayment of the loans, Pacific recommends the use of a specific minimum monthly payment, a relatively short repayment period after the initial 10-year deferment period, and use of a regular monthly electric billing procedure to collect the monthly payments.

Witness Godfrey pointed out the time certain payback modification will affect hardest the elderly and retired and the low-income homeowners.

The staff has pointed out that if its recommendation for a time certain date for the commencement of repayments on the loans is adopted, the program will be less expensive for Pacific's nonparticipant ratepayers and for those participating ratepayers who transfer their homes within ten years after completion of weatherization of their homes. For those homeowners who are required to commence repayment of their loans after ten years, the monthly payments will be less than the savings on their electric bills which have resulted from the weatherization of their homes, they will have already saved more in electricity charges than the initial cost of the weatherization, and they will have had zero-interest loans for periods of time ranging from ten to twenty years. These benefits should give homeowners sufficient incentive to weatherize their homes. Also, if the staff modification is adopted, almost all loans will be repaid during the useful life of the weatherization improvements. Under Pacific's plan loans on homes which are not transferred during the useful life of the weatherization improvements could continue to be outstanding and unpaid beyond the time Pacific and its ratepayers would be receiving any benefits from the improvements.

For the reasons set forth by the staff we will adopt the modification proposed by the staff, which provides for repayment of the loans which are still outstanding ten years after the completion of the weatherization improvements. The staff-proposed modification incorporates the suggestions of Pacific for the use of a specific

minimum monthly payment, which is \$5 per month, and a repayment period which will be relatively short, and in most cases, not exceed the useful life of the weatherization improvements. Pacific will be permitted, where appropriate, to use regular monthly electric billing procedures to collect the monthly payments.

B. Should transfers to close relatives of residences which have been weatherized under Pacific's proposed program be exempt transfers not requiring repayment of the loans at the time of such transfers?

Since the Commission has adopted the staff proposal to provide for repayment of all outstanding loans after ten years, it is appropriate also to adopt the staff proposal that transfers to close relatives be excluded from the repayment requirement at the time of such transfer to avoid any hardship which may result if repayment were required at that time. However, without the ten-year limitation such an exemption might allow a loan to continue unpaid indefinitely through successive transfers to close relatives.

C. Should Pacific be required to insulate walls as a part of its proposed weatherization program?

Pacific has explained that since there is no vapor barrier in an insulated wall, the installation of insulation in a wall may cause condensation resulting in rot within the wall and deterioration of the insulation material. Until this problem is solved Pacific does not wish to include wall insulation in its weatherization program. Nevertheless, we will require Pacific to study this matter further and provide a report and recommendations on the means of overcoming the problems indicated within one hundred and eighty days from the date of this decision.

D. Should Pacific's proposed zero-interest residential insulation assistance and financing program, as modified by the Commission, be approved?

Pacific has pointed out that to the extent that insulation and weatherization improvements are installed on a cost-effective basis, all of Pacific's customers are better off for two reasons:

1. The average cost of generation is lower than it would be if more expensive plant were built (the need for high-cost new generation capacity is avoided or reduced).
2. Ratepayers support Pacific's investment in insulation and weatherization improvements only until such time as participating homeowners repay Pacific, whereas if Pacific invested in new plant, ratepayers would effectively have to support that plant or its replacement in perpetuity.

Pacific has introduced evidence to show that during the period 1973 to 1978 the cost of steam production plant has increased at an annual rate of 12.0% and that there has been a similar escalation of the cost of debt capital needed to finance construction. As long as the average cost of weatherization is below 28 mills per kWh saved, nonparticipants in the program will benefit. An analysis of 2,013 completed weatherization jobs in the Oregon program shows that the average cost has been 14.5 mills per kWh saved.

Pacific estimates that retrofitting all the qualified homes in its California service territory with cost-effective insulation and weatherization will cost approximately \$5,700,000 and that the 550,000,000 kWh saved over the 25-year expected life of the insulation at 56 mills per kWh saved will amount to a total saving of \$30,800,000. These savings will be reflected in the rates which are charged to all California ratepayers.

Participating homeowners have an additional incentive to participate in the program by reason of the reduction in the amount of electricity consumed in their weatherized homes. The average savings to customers participating in the program is \$12 per month. The staff witness estimated that a homeowner with \$1,500 of weatherization work completed in 1980 would have saved electricity by 1990 which would have a present value of \$2,489, and the monthly saving in his electric bill in 1990 would amount to \$20.83.

Pacific's 8% interest program has been in operation in California for about one year. So far only three homeowners have participated in this program with financing provided by Pacific. Ten others have weatherized their homes under the program but have arranged their own financing.

Pacific's zero-interest program has been successful in the four states, Oregon, Washington, Idaho and Montana, where it has been approved and implemented. Since its inception last year, Pacific has arranged for the weatherization of over 4,000 dwellings. The expected savings in electricity from these three jobs is in excess of 22 million kWh per year.

The program may result in Pacific's near term rates being higher than they otherwise would be but the overall effects of the program will be favorable to both participating and nonparticipating ratepayers.

ICA has urged that Pacific's application be denied for several reasons. Each of these grounds will be considered separately.

ICA contends that Pacific's proposal moves toward usurpation of the independent insulation contractor's right and capacity to compete freely and fairly in the marketplace.

Pacific points out that under its program any qualified contractor may bid on a job. Also the contractor has an opportunity to deal directly with the homeowner to get the homeowner to go beyond the minimum specifications or not to take the lowest bid by paying the difference in cost. Probably 10% of the homeowners contract for insulation and weatherization work above the minimum bid on the minimum specifications. Pacific's auditors who survey the insulation and weatherization needs of the homes are on a salary rather than a commission. Such auditors do not suggest any particular product or denigrate any product that meets standard specifications. The insulation and weatherization contractors will have a fair opportunity to compete freely for the work to be performed on the homes that qualify under Pacific's proposed program.

ICA contends that Pacific's proposal unreasonably discriminates with respect to the rights of individual contractors. ICA points out that the contractors bid to Pacific and not to the homeowners to get the work and that the contractor assumes all liabilities to the consumer and Pacific even to the point of holding Pacific harmless for the work done. Further, Pacific will exercise the right to inspect the work of the insulation contractors who actually perform the work. These aspects of the program are for the protection of the homeowners, Pacific, and its ratepayers. They ensure that the program will operate more efficiently and effectively and are reasons the program should be approved rather than disapproved.

ICA contends that Pacific has failed to prove that the program would be practical in the California marketplace. The evidence which justifies approval of Pacific's program in California has been fully reviewed above and will not be repeated here.

ICA contends that Pacific would discriminate against households that do not meet the test of saving money for Pacific. Pacific's criteria for the selection of residences to qualify for insulation and weatherization improvements and the criteria for determining the extent of such improvements are reasonable and hence will not result in unreasonable discrimination and preference among Pacific's ratepayers.

ICA contends that Pacific's proposal sets the stage for expansion of such program throughout California and the eventual placement of insulation contractors under direct control of the Commission and the utilities themselves.

In considering this application the Commission is acting pursuant to recently enacted AB 1287 (1979) which, in Section 3,



provided that Section 2789 should be added to the Public Utilities Code. Section 2789 reads as follows:

"2789. Notwithstanding any provision of this part, the commission may permit or require any electrical or gas corporation subject to its jurisdiction to institute energy conservation programs for its customers, including related financial assistance at terms found reasonable by the commission. Such terms may include any provision of this chapter. This chapter shall not apply to solar water heating systems or active solar space conditioning systems. The commission shall initiate appropriate actions to secure exemptions or waivers which may be required under federal law. Nothing in this chapter shall expand, limit, or contract the general powers of the commission contained in this part or the authority of the commission regarding the terms and conditions of service by a utility. Any work requiring a license pursuant to Chapter 9 of Division 3 (commencing with Section 7000) of the Business and Professions Code which is performed pursuant to such an energy conservation program shall be performed by a licensed contractor."

Section 4 of AB 1287 (1979) reads as follows:

"SEC. 4. It is the purpose of the Legislature in enacting Section 3 of this act to reaffirm the authority of the Public Utilities Commission respecting the regulation of public utilities notwithstanding the opinion of the California Supreme Court in *Southern California Gas Company v. Public Utilities Commission*, 24 Cal. 3d 653."

Hence it is clearly provided by statute that this Commission may permit or require Pacific to institute a residential insulation assistance and financing program.

Rather than prescribing a uniform plan for weatherization of homes in California, the Commission, as recommended by the staff, will proceed to encourage utilities to devise programs that are suitable for their own particular service areas and to file applications requesting Commission approval of such programs. Concerned parties will have an opportunity to participate in the development of such programs at the public hearings which will be held on the applications.

The evidence in this proceeding is convincing in support of the Pacific's proposed zero-interest residential insulation assistance and financing program, as modified by the Commission, and it will be approved.

E. Should Pacific's proposed accounting and ratemaking treatment of the costs associated with the proposed program be approved?

No party raised any objection to Pacific's proposed accounting and ratemaking treatment of the costs associated with the proposed zero-interest residential insulation assistance and financing program. Except for Pacific's allocation procedure, they are reasonable and will be approved. Pacific's allocation procedure is still at issue in Pacific's Application No. 58605, and this issue will be resolved when the final decision is issued by the Commission in Application No. 58605.

Findings of Fact

1. To meet the increasing demand for electric service in California, Pacific has continued to expand the capacity of its electric generating system and has participated in the planning and construction of jointly owned regional facilities with other utilities.

2. In building new plant to meet the increasing demand, Pacific has been faced with continuously escalating construction and financing costs.

3. To the extent that a lesser quantity of production plant is constructed, the average cost of generation will not increase as quickly as it otherwise would.

4. Conservation is an effective means of lessening the long-term need for new generation plant and attendant rate increases.

5. Given Pacific's current residential nonlifeline tailblock rate of approximately 27 mills, the average lifetime cost of weatherization must be below 28 mills per kWh saved for nonparticipants to benefit from the proposed zero-interest residential insulation assistance and financing program.

6. An analysis of the 2,013 completed jobs in Oregon shows that the average cost to ratepayers of installing insulation and weatherization materials has been approximately 12 mills per kWh saved, to which figure should be added approximately 2.5 mills per kWh saved for Pacific's cost of administering the program.

7. There are approximately 4,200 electrically heated single-family dwellings and duplexes in Pacific's California service territory whose insulation and weatherization could be cost effective.

8. Retrofitting all the qualified homes in Pacific's California service territory with cost-effective insulation and weatherization will cost approximately \$5,700,000 and the 550,000,000 kWh saved over the 25-year expected life of the insulation will amount to a total saving of \$30,800,000.

9. To the extent insulation and weatherization improvements are installed on a cost-effective basis, all of Pacific's customers will be better off because (1) the average cost of generation will be lower than it would be if more expensive plant were built and (2) ratepayers will support Pacific's investment in insulation and weatherization improvements only until such time as participating homeowners repay Pacific, whereas, if Pacific invested in new plant, ratepayers would effectively have to support that plant or its replacement in perpetuity.

10. The adoption of the ten-year time certain proposal for the commencement of repayment on loans issued under Pacific's program will make the program less expensive for Pacific's non-participating ratepayers and for those participating ratepayers who transfer their homes within ten years after completion of the weatherization of their homes.

11. Under the staff-proposed modification the monthly payments for those homeowners who are required to commence repayment of their loans after ten years will be less than the savings on their electric bills which have resulted from the insulation and weatherization of their homes.

12. Under the staff-proposed modification for repayment of loans after ten years almost all loans will be repaid during the useful life of the weatherization improvements.

13. Under Pacific's unmodified proposal loans on homes which are not transferred during the useful life of the weatherization improvements could continue to be outstanding beyond the time Pacific and its ratepayers would be receiving any benefits from the weatherization improvements.

14. The adoption of the modification proposed by the staff that transfers to close relatives be exempt transfers not requiring repayment of the loans at the time of such transfers will lessen the hardship on some of the participating borrowers and will encourage more homeowners to participate in the proposed zero-interest residential insulation assistance and financing program.

15. Since there is no vapor barrier in an insulated wall, the installation of insulation in a wall may cause condensation resulting in rot within the wall and deterioration of the insulation material.

16. The insulation and weatherization contractors will have a fair opportunity to compete fully for the work to be performed on the homes that qualify under the zero-interest residential insulation assistance and financing program.

17. The provisions of the zero-interest residential insulation assistance and financing program which provide that the contractors bid to Pacific and not to the homeowners to get the contracts for the work, that Pacific shall inspect the work of the insulation contractors upon completion of the jobs to make sure that they comply with the specifications of the contracts, and that the contractors shall assume all liabilities to the consumers and Pacific arising out of their performance of the insulation work even to the point of holding Pacific harmless are for the protection of the homeowners, Pacific and its ratepayers and ensure that the program will operate more efficiently and effectively.

18. Pacific's proposed residential insulation assistance and financing program, as modified by the Commission, is in the public interest.

19. Except for Pacific's allocation procedure, Pacific's proposed accounting and ratemaking treatments of the cost associated with the residential insulation assistance and financing program approved by the Commission are reasonable and satisfy the requirements of Sec. 215(c)(2)A of NECPA and are likely to result in lower rates to Pacific's ratepayers than would occur if Pacific did not treat such costs in the manner proposed.

20. Pacific's allocation procedure will be resolved when the final decision in Application No. 58605 is issued by the Commission.

#### Conclusions of Law

1. The modification to Pacific's plan proposed by the staff which provides for repayment of loans which are still outstanding ten years after the completion of the insulation and weatherization improvements should be adopted.

2. The modification to Pacific's plan proposed by the staff which provides that transfers to close relatives of residences which have been weatherized under Pacific's proposed program should be exempt transfers not requiring repayment of the loans at the time of such transfers should be adopted.

3. Pacific should not be required to insulate walls as a part of its proposed weatherization program at the present time. Nevertheless, Pacific should be required to study and report on the feasibility of including wall insulation in its program.

4. Pacific's service to be performed under the zero-interest residential insulation assistance and financing program, as modified and approved by the Commission, will not constitute undue or unreasonable discrimination in violation of California law, including Section 453 of the Public Utilities Code.

5. Pacific's proposed zero-interest residential insulation assistance and financing program, as modified by the Commission, should be approved.

6. Pacific's proposed accounting and ratemaking treatment of the costs associated with the zero-interest residential assistance and financing program approved by this Commission should be approved.

7. Pacific should be required to file semiannual reports in a format similar to Exhibit 7, attached to the application which is Exhibit 2 in this proceeding, including data for the current quarter as well as the program to date along with a derivation of the current mills per kWh saved "by ratepayers".

8. Pacific should be required to file a report of a full cost-effectiveness study of the California program for staff analysis and acceptance prior to Pacific's filing its next application for a general rate increase. Included in the report should be a derivation with references of the applicable housing turnover rate by year and derivations of marginal and average costs of electricity as well as data and compilations of the type contained in the Energy Conservation Branch report entitled, "Cost Effectiveness and Energy Conservation Policy", dated October 1, 1979.

9. The Commission should support Pacific's application to the United States Department of Energy for a permanent waiver pursuant to Section 216(e) of NECPA of Pacific's zero-interest residential insulation assistance and financing program, as modified and approved by this Commission.

10. Because of the public need to put the zero-interest residential assistance and financing program into effect as soon as possible, the effective date of this order should be the date of issuance.

O R D E R

IT IS ORDERED that:

1. Pacific Power & Light Company's (Pacific's) proposed zero-interest residential insulation assistance and financing program is approved subject to the following modifications:

- a. If the loan has not been repaid as a result of a transfer of the weatherized dwelling within ten years after the completion of the insulation and weatherization improvements, or otherwise, the homeowner incurring the loan shall begin repayment of the loan without interest at the rate per month of 1% of the amount of the loan rounded to the \$5 amount nearest the nominal amount, but not less than \$5 per month, and such monthly payments shall continue until the loan is paid in full. Pacific may bill the homeowner for such monthly payments as a separate item on his electric bills, if the homeowner is a customer of Pacific.
- b. Transfers to close relatives, as hereinafter defined, of residences which have been weatherized under the zero-interest residential insulation assistance and financing program shall be exempt transfers not requiring repayment of the loan at the time of such transfer. Such exempt transfers shall be subject to repayment ten years after completion of the insulation and weatherization improvements, as provided in Ordering Paragraph 1.a above. To accomplish this modification, the wording of the first sentence of Paragraph 4 of the proposed "Insulation Cost Repayment Agreement and Mortgage", set forth as Exhibit 1, attached to the application herein, shall be amended by adding the following: "except for such transfers to close relatives, namely, husband, wife, father, mother, grandfather, grandmother, son, daughter, brother, or sister, including such relationships brought on by adoption or marriage, without limitation such as daughter-in-law, mother-in-law, or stepdaughter."

2. Within thirty days after the end of each semiannual period, commencing with the period ending June 30, 1980, Pacific shall file with the Commission an original and twelve copies of a report in a format similar to Exhibit 7, attached to the application which is Exhibit 2 in this proceeding, including data for the current quarter as well as the program to date along with a derivation of the current mills per kWh saved by ratepayers.

3. Within one hundred and eighty days after the effective date of this decision, Pacific shall file with the Commission an original and twelve copies of a report and recommendation on the feasibility of including wall insulation in its program.

4. Prior to filing its next application for a general rate increase, Pacific, for staff analysis and approval, shall file an original and twelve copies of a report of a full cost-effectiveness study of the zero-interest residential insulation and financing program approved in this order. Included in the report shall be a derivation with references of the applicable housing turnover rate by year and derivations of marginal and average cost of electricity as well as data and computations of the type contained in the Energy Conservation Branch report entitled, "Cost Effectiveness and Energy Conservation Policy", dated October 1, 1979.

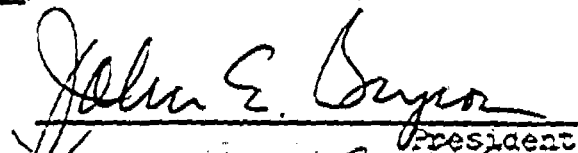
5. Pacific shall account for amounts paid to insulation and weatherization contractors by charging Account 124, Other Investments. Repayments on loans for the insulation and weatherization work shall be credited to Account 124. Operating expenses associated with the zero-interest residential insulation assistance and financing program, including Pacific's labor, materials costs, transportation, and other appropriate charges, shall be charged to Account 186, Miscellaneous Deferred Debits, and amortized to Account 908, Customers' Assistance Expenses, over a ten-year period. Any loans which prove uncollectible shall be written off and charged to Account 908.

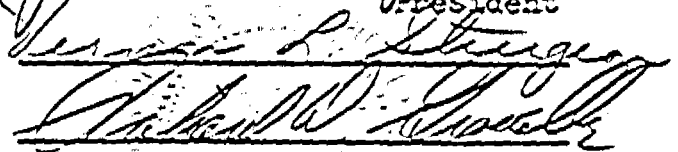


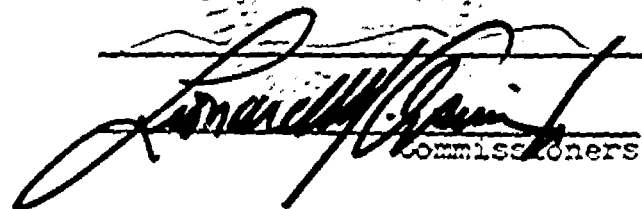
6. For ratemaking purposes expenses associated with the zero-interest residential insulation assistance and financing program shall be charged to Account 186, Miscellaneous Deferred Debits, and amortized over ten years to Account 908, Customers' Assistance Expenses. This ten-year amortization of expenses shall also apply to income tax calculations for ratemaking purposes. All unamortized operating expenses applicable to the program which are charged to Account 186, as well as insulation and weatherization costs remaining in Account 124, shall be included in Pacific's rate base for ratemaking purposes. All rate base amounts and operating expenses associated with the program in California shall be assigned directly to California. Pacific's allocation procedure will be resolved when final decision is issued by the Commission in Application No. 58605.

The effective date of this order is the date hereof.

Dated APR 2 1980, at San Francisco, California.

  
President

  
Commissioner

  
Commissioners

Commissioner Claire T. Dedrick, being necessarily absent, did not participate in the disposition of this proceeding.