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FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461
March 28, 1975

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR THE PRESIDENT

FROM: FRANK G. ZARB

SUBJECT: FEDERAL POLICY ON ELECTRIC POWER RATES

As you know, there is considerable pressure developing for a thorough overhaul of electric power pricing. Some consumer groups, for example, are strongly advocating guaranteed low cost electricity through the implementation of "inverted" rate structures, under which the price per unit of electricity would increase with the number of units consumed. Keeping in mind your interest that the national energy program focus on the "true" cost of energy, as well as seek to achieve fairness across the entire spectrum of consumers, we have been reviewing this entire matter. We believe that a creative approach to utility rate design can yield a solution both economic and equitable. We are enclosing a brief position paper which suggests that both utilities and consumers can be served by an economically sound cost-based price structure.

Three key-points must be emphasized. First, the price of electricity must be based on the cost of adding increments of capacity if greater efficiency and the lowest reasonable rates are to be achieved. Second, the cost of additional capacity today is higher than the average value of existing capacity, and in this new economic context, traditional rate structures are inappropriate. Third, peak load pricing based on the cost of incremental capacity should achieve the advantages sought by consumers through devices such as "inverted" rates without departing from the principle of cost justification.

To pursue these ideas, we are actively promoting peak pricing, load control, storage systems, and other conservation activities. We are also continuing to study new rate techniques, and plan to sponsor a major national conference on load management (rates, plus load controls) in June.

Attachment

FEDERAL POLICY ON ELECTRIC POWER RATES

The electric utility industry is in the midst of an unprecedented crisis which, although primarily financial in nature, touches upon regulatory, environmental, consumer, macroeconomic, and energy conservation issues. This complex problem is not unique to the nation's 214 investor-owned utilities, which account for nearly 80% of installed capacity and kilowatt hour output, rather it obtains to the entire electric power network, including the 554 municipal utilities, 980 rural cooperatives, and 69 Federal systems.

FEA and the Federal Power Commission have studied this matter at length, as have numerous other groups, and although there remains considerable definitive work to be done there is ample evidence to conclude that the root of the problem is essentially two-fold. Most importantly, for the first time in the history of the industry, electric power is a rising cost item, rather than declining. This unanticipated phenomenon is the consequence of recent escalation in the costs of generator fuels, capacity construction, and capital itself. Secondly, the demand for electricity is highly uneven with respect to both time of day and season, and the industry consequently utilized less than 49% of installed capacity in 1974.

The result of these several factors has been a steady increase in electric power rates. Residential rates, for example, have increased more than 33% nationally since 1972, and on some systems the rate has more than doubled. These rapid increases, in turn, have prompted consumer protests and concerted demands for cheap electricity and governmental intervention, including public ownership of the entire electric power system.

FEA agrees with FPC Chairman Nassikas that drastic Federal intervention in the utilities sector would not be productive, and that utility rates should not be set either uniformly or artificially low. Chairman Nassikas has also stated, however, that FEA--rather than regulatory agencies such as FPC--should be the key energy policy agency. FEA believes that a strong Federal policy on electric power rates and closely related issues is urgently needed at this time.

Our fundamental policy objective for electric power is to ensure the provision of adequate electric power, efficiently produced, equitably priced and prudently used. This objective must be pursued in a manner optimally consistent with other Federal priorities, particularly economic growth, energy independence, and environmental protection. FEA is confident that we can successfully accomplish this ambitious mission by focusing our efforts on redirecting the two closely related factors which have brought on this present crisis: economic incentives, i.e. rates, and demand patterns.

As a matter of explicit policy, this Administration should encourage a pattern of growth for electric power which would restrain total kilowatt-hour usage and peak kilowatt demand and bring them into a more efficient balance. Responsibly restrained and balanced growth would not only moderate the pressures for rate increases, it would simultaneously reduce the consumption of scarce fossil fuels for electricity generation, minimize the need for construction of new capacity, and improve utility revenues. It would also stabilize the industry as a basis for subsequent coal, nuclear and hydro-electrification of the economy as an alternative to direct combustion of scarce fossil fuels. Accordingly, a strong Federal commitment in this area should benefit such diverse interests as consumers, regulatory officials, environmentalists, and utility executives.

There is a very broad consensus that a gradual improvement of the capacity factor of the utilities industry, currently at an unfortunate 49%, is both desirable and attainable. An improvement to 56% by 1985, for example, is judged to be feasible with presently available technology and would reduce the need for installed capacity in 1985 by nearly 300 million kilowatts, assuming a 5% annual growth rate for kilowatt hour consumption. At $400 per kilowatt for construction of new capacity, this would mean a capital savings of $120 billion, which would be passed along to the consumer, while simultaneously achieving the myriad of related advantages discussed above.

Reaching this goal, however, will require the implementation of end-use conservation programs and two relatively simple techniques which have already been used with remarkable success in Europe, where the health of electric utilities a decade ago was far worse than our own situation at the present moment. These two techniques, which are now drawing considerable attention in the United States, are peak responsibility pricing and selective interruption of customer-approved loads.

The peak responsibility pricing concept, already used for telephone service, holds that those individual power loads which comprise the system peak load, and therefore force expansion of capacity, should bear the cost of such expansion. This means that the cost of electricity used during the peak demand periods would be substantially higher than for off-peak usage and that special meters (now economically justified) would be required. The cost per unit, then, would vary according to peaking coincidence, rather than with volume of consumption. This rate poses a sharp contrast to the traditional declining block rate structure, under which the price per kilowatt hour decreases with the number of kilowatt hours used. Declining block structures, which were partially justified during the earlier period of declining costs, now tend to encourage excessive use in general, and provide no incentives to shift demand into off-peak periods.

The selective power interruption concept, which would require special control devices (also economically justified now), holds that nonessential loads should be temporarily shed during peak periods, and that a favorable rate should be offered for this benefit. The major nonessential residential load at the moment is hot water heaters, which draw heavy wattage and could--because of heat retention--be shut off for relatively long periods of time without seriously interrupting hot water availability. In addition, the implementation of peak load pricing would tend to spur development and adoption of other "buffering" technologies, such as heat storage, "cool" storage and solar collectors, which allow loads to be shed from a utility system without seriously impairing the end service.

The combination of peak responsibility pricing, based on long-run incremental costs, and selective power interruption should form the cornerstone of Federal policy on electric power rates. Although they must be specifically tailored to individual utility systems, both techniques have been essentially validated and represent available state-of-the-art technology.

Further, they abolish the most objectionable features of traditional declining block rates without substituting in their stead equally dysfunctional structures, e.g., "Lifeline rates", which would continue to overlook the critical

importance of peak responsibility, and which would continue to lack the economic incentives needed to encourage efficiency in all phases of the electric power system. Moreover, analysis of the Lifeline concept by FPC's Office of Energy Systems and economists employed by the Environmental Defense Fund indicates that peak load pricing based on long-run incremental costs would achieve the advantages of Lifeline without the disadvantages, which are substantial.