



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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The Honorable Joseph P. Addabbo
Chairman, Subcommittee on
Minority Enterprises and
General Oversight
House Committee on Small Business



Dear Mr. Chairman:

In response to your request dated October 26, 1977, the General Accounting Office reviewed certain possible impacts energy costs may have on small businesses in the States of New York, Michigan, and Pennsylvania. Among the questions addressed in our review were (1) whether state utility regulating commissions allow non-competitive procurement of fuels, (2) whether competitive fuel procurements would result in lower rates, (3) whether utility companies rate structures favor industries over small businesses, and (4) what factors are resulting in relocations of small businesses.

During the course of our review, we visited the three public utility commissions and eight major electric utilities in these three States to discuss utility rates and procurement practices. We also met with representatives of various government economic development organizations, small business enterprises, and trade associations. We reviewed national electric utility rates, economic studies and industry statistics.

We found that none of the three State commissions require advertised solicitations with sealed bids for procurement of fuel by utility companies and that only the Pennsylvania Commission has criteria to evaluate fuel purchases. Some utilities use a competitive bidding procedure for fuel purchases, but most utilities buy fuel under negotiated contracts after receiving bids from a number of suppliers. The primary reason for using the negotiated procurement procedure is to assure supply reliability and fuel quality. Utility officials said they are concerned about fuel prices but in some cases these other factors assume greater importance than obtaining the lowest possible price.

As a general rule, procurements made through the competitive bid process result in lower costs than are achieved

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through negotiated contracts. If this generalization were to apply to electric utility fuel purchases, then the higher costs of the negotiated contracts could be passed on to the consumers through the automatic fuel adjustment provision.

It was difficult to accurately assess the effects of negotiated procurements on utility rates because relatively few competitive fuel purchases were made by utility companies compared to the number of negotiated fuel contracts. However, under certain conditions, negotiated prices may not be significantly higher than prices obtained under sealed-bid solicitations. It is possible for utilities to include in competitive bid solicitations delivery and quality specifications--two of the non-price factors utility officials cite as reasons for using the negotiated method. We also noted that as many as 20-50 coal companies may be asked to submit bids which then serve as the basis for further contract negotiation. To the extent that the bid price is considered to be an important factor in selecting suppliers for further negotiations, as is generally the case, this many suppliers would appear to assure adequate competition.

Current rate structures favor industry over small business. Utility company officials stated that they attempt to assess their rates on the cost of providing service to the various customer classes--residential, commercial, and industrial. Most small businesses fall into the commercial rate category, although some energy intensive firms may be classified in the industrial sector. However, the typical rate structures of most utilities, which include promotional and declining block rates for certain customer classes, provide evidence that large power consumers benefit from rates lower than those charged to residential or commercial customers. An examination of actual rates charged by utilities also demonstrates the disparity between the customer classes. Part of the price difference can be explained by the variation in costs of serving the different customer classes, but not all of the differences are directly attributable to cost. Within the last few years, the price disparity has decreased, with the level of residential rates moving relatively closer to that of industrial rates. A current trend is to restructure utility rates so as to reflect, among other things, the marginal cost of service. Some of these revised rate designs, however, could cause an increase in the costs of power to some small businesses that can only operate during normal business hours.

We found that businesses, both large and small, are relocating for various economic reasons. Energy costs have not usually been a primary factor because energy is not a

major expense item for most small businesses. In addition, we found that with few exceptions, utility rate differentials in the various sections of the country would not be incrementally significant. Furthermore, a business relocation is not always interregional, but may simply be a move from the city to the suburbs. This would further reduce the incremental cost difference between prior energy costs and the costs in a new location.

The following are the detailed results of our review.

STATE REGULATION OF
FUEL PROCUREMENTS

None of the three States require advertised solicitations with sealed bids for fuel procurements. Pennsylvania has issued regulations aimed at encouraging better fuel purchases. New York and Michigan examine fuel costs and procurement practices as part of their rate review process. The various State monitoring procedures are described below.

Pennsylvania

In March 1977, the Pennsylvania Public Utility Commission issued regulations concerning fuel procurements. The regulations, which cover both long-term and spot purchases ^{1/}, are directed at both utilities and their suppliers. The purpose of the regulations is to prevent the pass-through of excessive fuel costs to consumers through automatic fuel adjustment charges. The regulations establish guidelines and criteria against which utility procurement actions will be measured. They also require that utilities

--maintain purchasing information in such a manner as to facilitate audits and

--submit purchasing procedures to the state commission for review and approval.

In addition, fuel suppliers are subject to audit by the state commission and utility companies. Prior to issuing these regulations, fuel purchases were monitored by the Commission through reviews of the rate submissions and fuel adjustment charges.

^{1/}Spot purchases are procurements made by utilities from suppliers who have fuel excess to the needs of their regular contract customers.

The three Pennsylvania utility companies selected for our review were either recently audited by the Commission or are currently undergoing a procurement review. Final reports have yet to be issued.

New York and Michigan

Although the New York and Michigan public utility commissions have not issued regulations requiring competitive fuel procurements, such practices are encouraged through an examination of fuel costs when rates are reviewed. These state commissions also review and approve utility fuel procurement procedures. To date, both state commissions have either reviewed or plan to examine the fuel purchasing operations at each of the utilities included in our review. In addition to these monitoring efforts, utilities in both states must periodically file fuel purchase statistics and other data with the commissions. In Michigan, the public utility commission's 1976 staff study of utility companies' procurement practices found that improved audits and additional management incentives were needed to help keep the cost of fuel down.

UTILITY PROCUREMENT PRACTICES

We found that most utilities in the three states buy fossil fuels through negotiated contracts. The usual procedure is to request prices from a number of suppliers. After the bids are received, they are evaluated for price, quality of product, vendor reliability, and transportation costs. Further price negotiations generally follow. The majority of utilities reviewed meet their fossil fuel requirements by contracting with more than one supplier because they believe that multiple sources are necessary to assure reliability of supply. In addition to long-term contracts, a limited number of short-term or "spot" buys ^{1/} are made.

Coal and oil are the primary fossil fuels used to generate electricity in the states under review. Shown below are the percentages of such fuels, in terms of heat required to generate electricity:

^{1/}In general, "spot" prices are lower than contract prices during the spring and summer months when supplies are plentiful. The reverse is true during the fall and winter.

<u>State</u>	<u>Type of fossil fuel</u>		
	<u>Coal</u>	<u>Oil</u>	<u>Gas</u>
	(Percentage of total Stu's)		
New York	21	77	1
Pennsylvania	89	11	0
Michigan	82	15	3

The procurement data for the utilities visited are summarized in appendix I. The procurement practices of four companies that have special procurement features are discussed below.

Consolidated Edison of New York, Inc. (Con Edison) serves New York City and Westchester County. Con Edison spends about \$560 million for residual oil annually--about 1 percent of our nation's total use. In order to secure adequate and reliable supplies, the company procures about 80 percent of its fuel requirements through negotiated contracts with major firms that have a refining capability. Independents without refineries are not usually considered for such long-term buys. The balance of the utility's needs are obtained by making "spot" purchases from various vendors, including small and medium-sized independents. A company official told us that Con Edison's "spot" purchases are made when prices are advantageous.

The Long Island Lighting Company (LILCO) serves Nassau and Suffolk Counties on Long Island. The New England Petroleum Company (NEPCO) has been LILCO's primary supplier since 1967. Until 1975, NEPCO furnished the utility its entire oil supply. At that time, in resolution of a dispute resulting from post-embargo price increases, LILCO and NEPCO renegotiated their contract. The current agreement, which terminates in 1980, permits LILCO to buy about one-third of its requirements from other sources. The utility has since negotiated contracts with three other fuel suppliers after soliciting bids from a number of large and small suppliers. LILCO has made only limited use of the "spot" market.

The Niagara-Mohawk Power Corporation serves central New York State. Niagara-Mohawk obtains its entire oil supply from NEPCO under two long-term supply contracts--one for 10 years, the other for 15 years. The first contract resulted from a competitive bid solicitation in which NEPCO was the low bidder. The second contract was negotiated with NEPCO after a bid solicitation resulted in the receipt of only one bid--NEPCO's.

Coal is purchased under both long- and short-term negotiated contracts; formal competitive bids are not solicited. Company officials believe that negotiated procurements enable the utility to secure reliable suppliers that can consistently meet its fuel specifications. Currently, Niagara-Mohawk has 15 coal suppliers under contract.

Company officials said that "spot" purchases are not made because the utility's two oil-fired generating facilities are located in areas that have unusual transportation requirements. Furthermore, they fear the speculative nature of the spot market.

The Pennsylvania Power & Light Company (PP&L) serves customers in the eastern part of Pennsylvania. The utility company depends on coal as its primary source of fuel and purchases about 43 percent of its total coal requirements from five affiliated mining companies. The remaining supplies are purchased through short-term negotiated contracts and by spot purchases. PP&L's average coal costs from its affiliated mining companies are about \$8 per ton higher than its average spot purchase costs.

The higher costs result from higher than normal development and operating costs for two of the five mines. In 1976, the unit price for coal produced from three of the mines was about \$20 per ton. A fourth mine had a unit cost of nearly \$30 per ton and the cost for the fifth mine was almost \$60 per ton. PP&L had been passing these high costs on to their customers until the practice was noted by recent Pennsylvania Public Utilities Commission audits. The Commission reached an agreement with PP&L that the utility would absorb most of the excess development and operating costs if they could average the cost of coal obtained from all five of its affiliated mines.

This method still resulted in higher costs for the consumers when compared to costs for non-affiliated coal. However, the Commission permitted this because they have a policy of encouraging the utilities to develop mining affiliates and it was difficult to order PP&L not to use the mines. The Commission also hopes the operational problems will be resolved and production costs will drop, eventually resulting in lower prices compared to those from non-affiliated sources. A Commission official said they will continue to evaluate PP&L's cost of coal from its affiliated mines.

The effect of procurement
practices on fuel costs
and utility rates

The widespread use of negotiated procurements compared to the limited number of competitive fuel purchases make it difficult to accurately assess the effects of current procurement practices on fuel costs and utility rates. Audits of government procurement practices have found that, as a general rule, negotiated contracts are more costly. However, we do not know if the procurement conditions in the utility fuels area are sufficiently comparable to general procurement methods that the same results would be true for the utility companies.

We found some similarities in the two methods as they relate to utility companies which may serve to narrow any pricing differential that exists. Most of the utilities solicit bids for fuel from a number of suppliers and consider the bid price to be an important factor in selecting suppliers for further negotiations. In this respect, the negotiated procedure would assure adequate competition, particularly in the coal industry where a utility may consider 20-50 bids from various coal suppliers. Negotiations on factors other than price may also result in prices comparable to those obtained by competitive procurement. Advertised solicitations for sealed bids for fuel supplies can include delivery and product quality specifications in addition to price. Consequently, negotiations on these same requirements may not result in a much higher price than sealed bid quotations.

Utility company officials generally cited factors other than price as the reason why negotiated contracts are used. It appears that much of the concern for reliable delivery and product quality originated with the 1973 oil embargo, the subsequent seller's market that developed, and the institution of environmental standards that had to be met. As a result, although price is an important factor in reviewing bid proposals, these other factors assume an important role when awarding a fuel contract. Incorporating delivery requirements and product quality assurances into a contract increase fuel costs. Under the fuel adjustment provisions, these higher costs are passed on to consumers in the form of higher rates.

We could not determine whether utility concerns for these non-price factors remain valid today. The coal industry appears to be much more competitive now than it was in 1974, with less concern needed over non-deliveries.

Oil prices have stabilized and environmentally-acceptable low sulfur oil is available. Under these changed conditions, a return to more competitive practices may be possible, thus explaining the current interest by state utility commissions to more closely monitor utility procurement practices.

UTILITY RATES AND THEIR
IMPACT ON SMALL BUSINESS

Traditionally, consumers using large amounts of electricity receive the benefit of lower utility charges. The rapid escalation of electric costs in recent years has resulted in many utility companies and Federal and State agencies monitoring electric rates to either revise or consider revising electric rate structures to encourage conservation and stabilize demand in an effort to dampen cost increases. For many small businesses, however, it is not always certain that these revisions will result in lower electric rates and in some cases, costs could be increased.

Energy consumers generally fall into three rate categories--residential, commercial, and industrial. Most small business operations fall into the commercial rate category, although some that are energy intensive may be classified as industrial.

Large users, such as industrial manufacturers, generally pay less per kilowatt hour (kwh) of consumed electricity than small customers. Below is a comparison of utility costs, per kwh of electricity used, by rate classification for three utilities included in our review.

<u>Utility</u>	<u>Type of Service</u>		
	<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>
	<u>-----Cost per kwh-----</u>		
Consolidated Edison of New York, Inc.	\$.0713	\$.0827	\$.0606
Pennsylvania Power & Light Company	.0357	.0445	.0214
Detroit Edison Company	.0395	.0475	.0287

Utilities justify the higher rates charged small businesses by claiming that it costs more to service this class of customers.

Current rate structures

Residential charges are almost always computed by multiplying the number of kilowatt hours of energy consumed by a fixed rate. Rate schedules for large commercial and industrial customers usually have two components--an energy charge and a demand charge.

An energy charge is based solely on the total number of kwh of electricity consumed during a billing period. The charge may be based on either a flat or block rate. Most block rates are structured so that the rate charged for all or any part of a succeeding block is at a lower unit price. For example, the charge could be \$.035 per kwh for the first 6,000 kwh used, \$.030 per kwh for the next 24,000 kwh used, etc. With this method, the more electricity used the lower the unit cost.

A demand charge is a fixed cost that is based on the maximum load that a user places on a utility system during a specified billing period. If a consumer, such as an airport or multiple-shift industrial plant, places a uniform, around-the-clock demand on an electric system, the supplying utility can easily plan its capacity to meet the user's requirement. However, if a consumer places high sporadic demands on such a system, the utility has to maintain a reserve capacity large enough to meet the intermittent peak loads. The demand charge will be the same whether a customer reaches that peak amount only once a month or requires continuous service at the peak level. As a result, a sporadic user pays a higher unit cost for the power used through application of this charge as shown below.

	<u>Company A</u>	<u>Company B</u>
Peak requirement	1,000 kw	1,000 kw
Demand charge (\$.03 per kw)	\$3,000	\$3,000 kw
Average load	300 kw	500 kw
Total monthly usage	216,000 kwh	360,000 kwh
Demand charge per kwh used	\$.014	\$.008

Fuel adjustment charge

In many utility service areas, consumer rates are directly affected by variations in fuel costs. Most state public utility commissions have restricted utilities to pass on increases in fuel costs directly to customers through use of a fuel adjustment charge. This charge applies to all customers and fluctuates with reported fuel costs. The

proponents for the fuel adjustment provision claim that the absence of such a mechanism, particularly during periods of rapidly changing fuel prices, would entail frequent rate reviews by public utility commissions.

Various consumer groups have opposed this separate fuel charge on the grounds that it does not give the utilities sufficient incentive to seek lower fuel prices. Some state commissions are now considering the elimination of this charge if their studies find it would result in lower fuel costs by creating additional incentives for aggressive fuel procurement practices.

State rate setting policies

State public utility commissions in New York, Michigan, and Pennsylvania usually approve rates that are based on costs the utility claims to have incurred to service a particular class of user--residential, commercial, and industrial. State commissions also permit utilities to earn a rate of return on their investment as an incentive or profit factor. The utility commissions in New York and Pennsylvania permit utilities to charge all customer classes the same rate of return. In contrast, Michigan generally allows utilities to earn a higher rate of return on their commercial customers than on either residential or industrial users. For example, rates of return developed by the Consumers Power Company for the year ended August 31, 19'6 were:

<u>Type of Service</u>	<u>Approved Rate of Return</u>
Residential	6.2%
Commercial	11.6%
Industrial	8.9%

The explanation for this variation given by one Michigan State official was that residential consumers and large industrial users are able, through their lobbying efforts, to exert greater influence during the rate review process to limit the rates of return, thereby reducing their electricity rates.

In an effort to reduce the cost of generating electricity, State utility commissions and utility companies have either changed or are considering revising their rate structures. The revised rate structures are intended to provide incentive for consumers to use electricity during periods of low demand when the utility's more efficient base load generators are under-utilized. Rates charged

during this off-peak time period will be low. Conversely, consumers that require electric power during periods of high demand will be penalized with much higher unit costs because generators with higher operating costs are used to provide the supplemental power. Some of the utilities contacted have incorporated certain of these rates in their current rate structure (see appendix II).

Utility company and small business representatives told us that most small businesses operate during normal business hours--8 a.m. to 6 p.m. Since the new rates will favor customers that have off-peak and uniform needs, many small businessmen will either have to change their hours or methods of operation--or face higher electric charges.

In a recent demonstration of time-of-day pricing for electric power, a peak price of 16 cents/kwh was charged for electric power use during selected hours of the day while the lowest off-peak rate was only 1 cent/kwh. Other utilities instituting revised schedules charge different rates and vary the time periods when peak rates are assessed. Consequently, the effect on any one business operation will vary with its location, usage, and applicable rates.

National and regional
rate comparisons

Electric rates vary from one region of the country to another. Electric rates in the south are generally lower than those charged by utilities in the north. Utilities with the lowest rates are located in the Pacific and Rocky Mountain States. Con Edison rates are substantially higher than rates of other utilities.

A recent staff study of 50 utilities by the Michigan Public Services Commission, included a ranking of them by the amounts charged commercial customers. Included in this study were six of the utilities visited during our review.

	<u>Rank</u>	<u>Typical monthly bill 1/</u>
Con Edison	1	\$447
Philadelphia Electric	3	325
Consumers Power	13	270
Pennsylvania Power & Light	18	258
Niagara-Mohawk	25	244
<u>Detroit Edison</u>	26	242

1/Based on 25 kwh, 5,000 kwh.

In contrast to the electric costs for consumers in these six utility service areas, the typical monthly bills for commercial customers in some of the southern states are shown below.

	Rank	<u>Typical monthly bill</u>
Florida Power and Light Co.	21	\$249
Alabama Power Company	27	234
Houston Lighting and Power Company	36	200
Louisiana Power and Light Co.	42	171

A comparison of industrial rates prepared by the Edison Electric Institute revealed that Consolidated Edison and Long Island Lighting Company were consistently above cost averages for all usage levels at both national and regional levels. The statistics for these two companies follow.

	<u>Percentage Comparison To:</u>			
	<u>National average</u>		<u>Regional average</u>	
	<u>Small user</u>	<u>Large user</u>	<u>Small user</u>	<u>Large user</u>
Consolidated Edison	236	259	190	202
Long Island Lighting Company	145	165	117	129

The other utilities we visited closely approximated national and regional averages.

SMALL BUSINESS RELOCATIONS

There has been much discussion about the movement of industry from the established urban areas in the north to what has become known as the sunbelt. Businessmen decide to relocate their companies for a variety of reasons, including cost and social factors. Our discussions with electric utilities, various governmental agencies, and industry associations indicate that movements within metropolitan areas are a far more frequent occurrence, with electric utility rates generally playing a minor role in relocation decisions. Complete data showing the extent and causes of business movement was not always available.

New York

In many ways, the New York City Metropolitan area is the most complex of the areas visited. The close approximation of three states, each having different taxes, access to transportation, and electric companies, leads to varying costs in different parts of the metropolitan area. Most of the firms moving from New York locate in the surrounding area. Moves to the sunbelt are growing, but are still the exception. Most of the individuals interviewed believed that although electric costs are a factor, they are not the primary cause for these relocations. Rather, they cite a lack of room for expansion, high taxes, the crime problem, and a feeling that city officials are unresponsive to business needs. However, it is difficult to point to any one or two of these factors as controlling relocation decisions.

Once the decision to move has been made, electric rates can play a role in selecting a new site. The choice of a new location, however, may not be based only on financial considerations. Many firms, for example, move to an area close to where the owner lives.

New York has historically had high electric rates relative to the rest of the country and therefore has not been an attractive location for energy intensive industries. Currently, two industries which are electric intensive (electric costs amounting to about 10 percent of sales) --the electroplating and plastic molding industry--remain in the New York area to stay close to their customers, but they are now feeling the pressure to move for the same reasons discussed above. For these industries, electric rates are a more significant consideration. However, an electroplate industry representative told us that high relocation costs will probably prevent most firms from moving. In contrast, a representative of the plastic molders industry told us that movements to the suburbs are encouraged primarily to take advantage of lower electric costs.

Pennsylvania

Philadelphia has also experienced a recent reduction in business activity but this appears to have abated in 1977. Officials do not believe that high electric rates have played a substantial role in the loss of business. A 1975 study of local industry, sponsored by the City of Philadelphia, indicated that firms perceive the availability of utility services as an advantage, although most firms gave access to utility services a low priority ranking relative to other

locational requirements. Specifically, electric costs were rarely cited as a problem.

In a Temple University survey on why 30 companies left Philadelphia for the Pennsylvania and South Jersey suburbs from 1972 to mid-1977, better land sites and building features, deteriorating neighborhoods, and security problems were stated to be the primary reasons. <

Generally, officials of the various State, local, business, and economic organizations contacted maintain that utility rates are not a factor when a businessman decides to relocate. High taxes and labor costs were generally cited as the determining variables.

Michigan

According to State officials, energy costs are not a major factor for businesses relocating their facilities. In their opinion, access to market and labor costs--including fringe benefits--are the primary factors for selecting a new business location.

The Michigan Department of Commerce is currently making a study of the State's changing economy. Here again, preliminary results show that the cost of energy is not a major factor. The study--the Michigan Business Attitude Survey--evaluated the responses from 650 businessmen. Their conclusions were that access to markets, land, building or rental costs, and labor costs are the major factors in choosing business locations. A number of other factors were cited as more important than energy. Out of the 23 factors evaluated, concern over energy availability and costs ranked about 12th.

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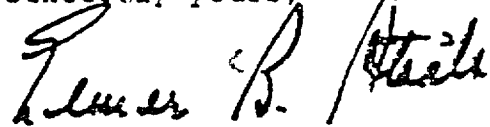
We hope that the foregoing information will be helpful to you. We did not obtain agency comments on the report due to the relatively short time allocated to complete the assignment and the limited involvement of Federal agencies in the subject matter. We did informally request clarification of some of the data obtained during our audit work from cognizant agency staff.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this

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report until 30 days from the date of the report. At that time, we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Luther B. Stacks". The signature is written in dark ink and is positioned above the typed name.

Comptroller General
of the United States

SCHEDULE OF
FOSSIL FUEL PROCUREMENTS
BY SELECTED UTILITIES

<u>Utility</u>	<u>Type used</u>	<u>Primary Fossil Fuel</u>		<u>Percent Purchased Under:</u>	
		<u>Estimated annual cost</u> (\$ millions)		<u>Contract</u>	<u>Spot Market</u>
<u>New York</u>					
Consolidated Edison of New York, Inc. <u>b/</u>	Oil	560		80	20
Long Island Lighting Co. <u>c/</u>	Oil	208		94	6
Niagara-Mohawk Power Corp. <u>a/</u>	Coal	89		66	34
	Oil	96		100	0
<u>Pennsylvania a/</u>					
Philadelphia Electric Co.	Coal	47		94	6
	Oil	165		96	4
Pennsylvania Power & Light Co.	Coal	257		45	55
	Oil	37		100	0
Metropolitan Edison Co.	Coal	41		60	40
<u>Michigan a/</u>					
Detroit Edison Co.	Coal	286		92	8
	Oil	102		98	2
Consumers Power Co.	Coal	139		91	9
	Oil	93		83	17

Notes:

a/Data is for 1976.

b/1977 estimate.

c/April 1976 through March 1977.

