

November 1998

FEDERAL POWER

Regional Effects of Changes in PMAs' Rates



**Resources, Community, and
Economic Development Division**

B-281133

November 16, 1998

The Honorable Don Young
Chairman, Committee on Resources
House of Representatives

The Honorable John T. Doolittle
Chairman, Subcommittee on Water and Power
Committee on Resources
House of Representatives

Since the New Deal, the federal government has established about 130 water projects that—in addition to promoting agriculture, flood control, navigation, and other activities—produce electric power. To provide this power to large portions of rural America, the government also created five power marketing administrations (PMA), along with the Tennessee Valley Authority (TVA).¹ These facilities have been part of the electrification of America, especially rural America. In 1940, about 25 percent of all households lacked electricity and 70 percent of farms, whereas today, virtually all households have electricity.

Now that nearly all of America has electricity, some believe the PMAs have completed their mission and should be divested, particularly since greater competition exists in the electricity industry. Others suggest that the PMAs be required to operate in ways more like private utilities' practices, such as charging market rates for power.² However, the PMAs currently sell wholesale power to entities such as cooperatives and publicly owned utilities, also known as "preference customers," at average rates that, from 1990 to 1995, were from 40 to 50 percent below the rates nonfederal utilities charged. Although preference customers generally buy most of their power from sources other than the PMAs and, as a result, currently pay market rates for that power, concerns have been raised that a change in PMAs' ownership or the means by which they establish rates could increase rates and could adversely affect the rural or poorer areas they serve. Those expressing such concerns believe that the PMAs should

¹TVA is a multipurpose independent federal corporation. Among its purposes is generating power, which, like the PMAs, it markets. TVA sells power in nearly all of Tennessee, as well as parts of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia. App. I presents a map of TVA's service territory.

²Our report *Federal Power: Options for Selected Power Marketing Administrations' Role in a Changing Electricity Industry* (GAO/RCED-98-43, Mar. 6, 1998) identifies options that the Congress and other policymakers could pursue to address concerns about the PMAs' role in restructured markets or to manage them in a more businesslike fashion. Among other options, the report discusses divestiture and its potential impact on preference customers by individual PMA.

continue to operate as they do now. To date, it has been difficult to examine the possible impact of potential rate increases because few analyses have identified the places that ultimately consume PMA power or the characteristics of the households the preference customers serve.

To aid in congressional deliberations on the future role of the PMAs, as requested we are providing a state-by-state analysis of the preference customers who buy power from the Southeastern Power Administration (Southeastern), the Southwestern Power Administration (Southwestern), and the Western Area Power Administration (Western).³ More specifically, we identify (1) the extent to which preference customers' rates may change if market rates are charged, (2) the areas the three PMAs' preference customers report serving, and (3) the incomes in these areas and the extent to which they are rural or urban.

Background

The Department of Energy's (DOE) PMAs sell power primarily to preference customers—cooperatives and public bodies, such as municipal utilities, irrigation districts, and military installations—that are located in the PMAs' service territories.⁴ Many of these preference customers then resell the power to industrial, commercial, and/or residential end-users.

To estimate any potential rate changes if market rates are charged (after a divestiture of the PMAs or otherwise), we calculated how much, in cents per kilowatthour (kWh),⁵ each preference customer paid, on average, for power purchased from (1) all sources, including the PMAs, and (2) sources other than the PMAs, including the wholesale market, in 1995.⁶ Then, we took the difference between these two, considering the latter to be the market rate. To map the areas that preference customers serve, we

³In addition, the Bonneville Power Administration (Bonneville), the oldest PMA and the largest in terms of total revenues, operates in the Pacific Northwest. Because you asked us to examine Southeastern, Southwestern, and Western, Bonneville is not covered by this report. Finally, the projects constituting the Alaska Power Administration, the smallest PMA, were fully divested in October 1997 and August 1998.

⁴Our analysis covers about 680 preference customers included in the Energy Information Administration's Form 861 database of electric utilities, which is a compendium of utilities in the United States. As a result, we did not include other preference customers such as those owned by state governments or the federal government—for example, hospitals and military facilities. App. II presents a map of the PMAs' service territories. As explained in app. III, we did not include TVA as a customer of Southeastern.

⁵A watt is the basic unit used to measure electric power. A watt-hour is equal to a watt of power applied for 1 hour. A kilowatt-hour is 1,000 watt-hours. A megawatt-hour is 1,000 kWh.

⁶We based our work on an existing database developed for an earlier GAO report, which compiled information on 1995 purchases. Comparable data for 1996 or later were not available.

identified the counties and towns that the customers reported serving in Electrical World: Directory of Electric Power Producers.⁷ It is important to note that our analysis included only those customers that purchased power directly from the PMAs and that our analysis shows higher rate increases than would be likely if market rates decline. To develop information on the characteristics of the areas that preference customers reported serving, for each county and town we obtained data on 1989 household incomes and the extent to which the population is urban or rural, as reported in the 1990 census, the latest data available. Appendix III provides additional details on our scope and methodology.

Results in Brief

Overall, slightly more than two-thirds of the preference customers that purchase power directly from the Southeastern, Southwestern, and Western Area power administrations may see relatively small or no rate increases if these PMAs begin to charge market rates for the power they produce. In particular, given our assumptions, almost all of Southeastern's preference customers would see average rate increases of up to one-half cent per kWh on rates that in 1995 typically ranged from 3.5 to 6.0 cents per kWh. Most of these preference customers would see increases of less than one-tenth cent per kWh. If the preference customers served by Southeastern pass the higher rates on proportionally to their residential end-users, most end-users would see their monthly electricity bill increase by less than \$1, while the maximum increase would range in most states between \$1 and \$8, depending on the state. Preference customers who receive power from Western may see a variety of rate increases if market rates are charged. In California, Colorado, and Nebraska, for example, more than three-quarters of the preference customers may see relatively small increases of less than one-half cent per kWh. However, in several other states, such as South Dakota and Utah, a number of preference customers may see average rate increases that exceed 1.5 cents per kWh. These customers of Western typically paid relatively low rates ranging from 1.5 to 3.0 cents per kWh and bought most of or all their power from the PMA in 1995. In turn, residential end-users who receive power from these utilities may see larger increases in their electricity bills. For example, in states with larger rate increases, if a preference customer's

⁷Electrical World: Directory of Electric Power Producers is a standard reference for data on the electricity industry. It compiles specific data on subjects such as individual utilities' power production capacities, power sales, sources of purchased power, distribution facilities, as well as the service areas, which are provided by the utilities themselves. However, it is important to note that under the directory's reporting format, preference customers specify the counties and/or towns they serve, which may not precisely portray the boundaries of their service areas. For example, although a preference customer may report serving a particular county, it may actually serve a portion of the county. Consequently, although our approach may somewhat overstate the areas preference customers serve, it is based on the best data available.

rate increases by 1.5 cents per kWh, residential end-users would pay about \$10 to \$15 more per month for electricity, depending on the state. As a group, Southwestern's preference customers may see rate increases that lie between those for Southeastern's and Western's customers. Most of Southwestern's preference customers may see relatively low rate increases of up to one-half cent per kWh on rates that typically ranged between 1.5 and 3.5 cents per kWh. However, almost all preference customers in Oklahoma may see larger rate increases that exceed 1.5 cents per kWh. For most of these customers, their residential end-users would see monthly increases of about \$22. In general, then, a preference customer's rate increase depends primarily on what portion of its total power comes from the PMA and how close the PMA's rate is to the market rate.

Preference customers included in our analysis that purchased power directly from the PMAs⁸ serve varying portions of 29 states.⁹ In most states, the areas that preference customers report serving cover less than half the state. In several states—such as Illinois, Kentucky, and Montana, which are served by fewer than five preference customers—the areas covered are even smaller. In contrast, in several states, particularly Arizona, Georgia, North Carolina, and South Dakota, preference customers report serving most or almost all counties in the state. Except in Colorado, North Dakota, and South Dakota, the preference customers provide less than 10 percent of the residential end-users' electricity consumption.

The populations in the areas preference customers serve generally have median incomes that are similar to the median income in the entire state. In about two-thirds of the states we examined, the preference customers serve counties and towns whose median household incomes are within 15 percent of the statewide median income. However, in some states, such as Montana and Texas, preference customers primarily serve poorer areas and households. Yet in other states, such as California, preference customers sell PMA power to areas such as Orange County, where nearly half of the households have incomes exceeding \$50,000 a year—or at least 38 percent greater than the statewide median. Nationwide, about half of

⁸We did not include in our analysis customers that receive PMA power indirectly, that is, through direct preference customers of the PMAs—generation and transmission cooperatives and municipal joint action agencies—because, with very few exceptions, the PMAs' 1995 annual reports do not list them.

⁹These states are Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Mexico, Nevada, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Texas, Utah, Virginia, Wisconsin, and Wyoming.

the towns that preference customers serve are urban and about half are rural. Most of the counties are “mixed” (neither urban nor rural), about 40 percent are rural, and the remainder are urban.

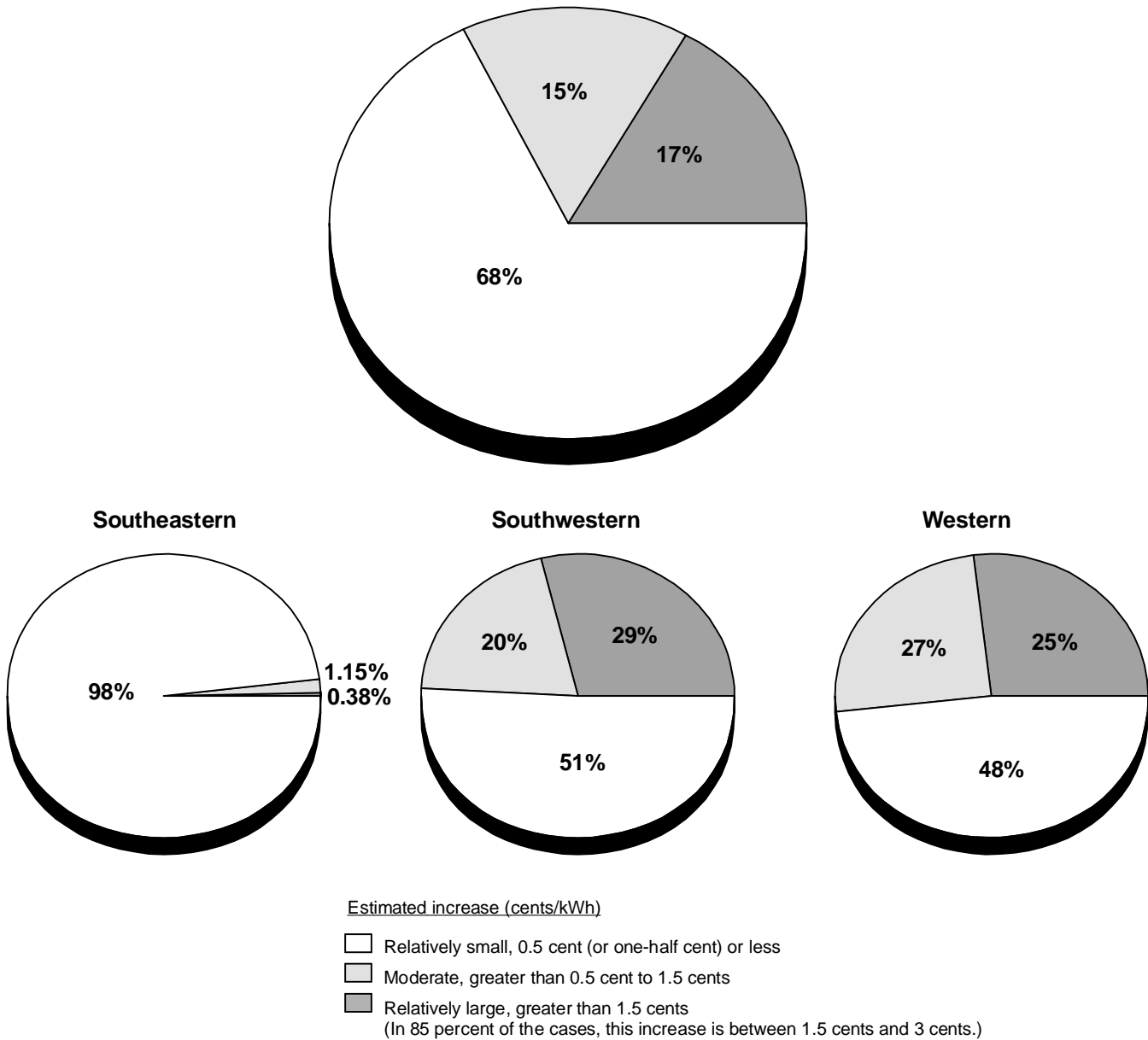
Most Rate Increases May Be Relatively Small, Although Some May Be Larger

Overall, about 68 percent of Southeastern’s, Southwestern’s, and Western’s preference customers may experience relatively small rate increases. In our analysis, the increases that we considered relatively small (0.5 cent per kWh or less), moderate (from greater than 0.5 cent up to 1.5 cents), and relatively large (greater than 1.5 cents) represent amounts above the average rates that preference customers paid for power from all sources (both PMAs and others) in 1995. These base rates typically ranged in 1995 from 3.5 to 6.0 cents for Southeastern’s preference customers, from 1.5 to 3.5 cents for Southwestern’s preference customers, and from 1 to 4 cents for Western’s preference customers. The increases represent the difference between these average rates and what preference customers would have to pay if they purchased all of their power at market rates. For example, if a preference customer of Southeastern paid a combined 3.5 cents per kWh for power from the PMA and other sources in 1995 and paid 3.9 cents for power from non-PMA sources, we assumed the customer’s rates would rise from 3.5 to 3.9 cents—a relatively small increase of 0.4 cent—if it had to pay market rates for all its power. Our calculation of the increase in a residential end-user’s monthly electricity bill represents the amount of the preference customer’s increase times the average monthly consumption of electricity by residential end-users in the preference customer’s state.

As shown in figure 1, 98 percent of Southeastern’s preference customers may see relatively small rate increases of 0.5 cent per kWh or less if they pay market rates for PMA power. For Western and Southwestern, about half of their preference customers would see relatively small rate increases and about 25 to 30 percent of the customers for each PMA would see relatively large increases. Figure 2 breaks out these potential increases by state and, of the total amount of power consumed in each state, indicates the percentage provided by the PMA.

Figure 1: Potential Changes in Preference Customers' Rates If the PMAs Charge Market Rates

Percentage of Preference Customers for All Three PMAs

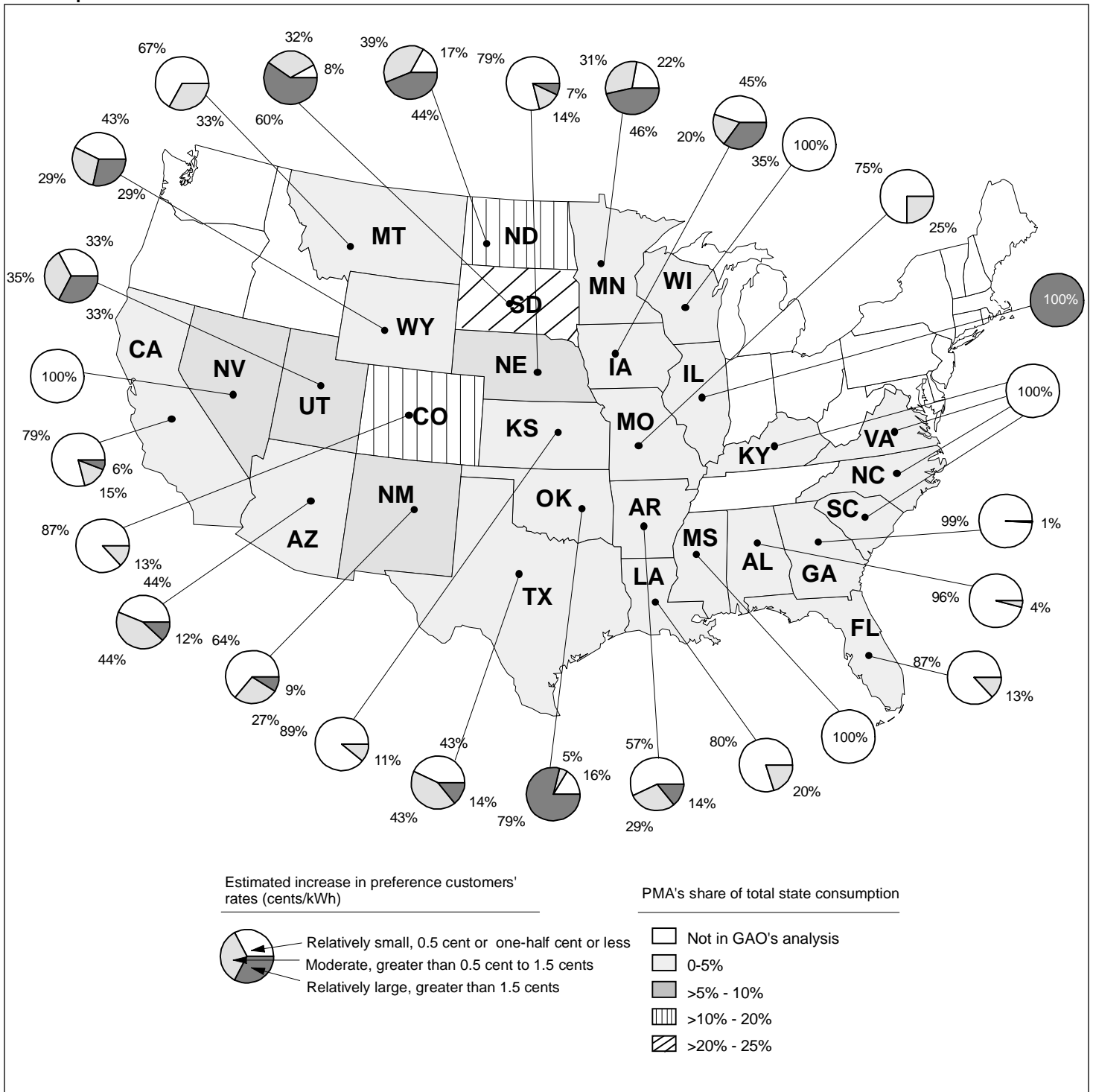


(Figure notes on next page)

Note: Power from the preference customers represents about 2 percent of the total electricity consumption for the 29 states in our analysis.

Sources: GAO's analysis of data provided by DOE's Energy Information Administration and Southeastern's, Southwestern's, and Western's 1995 annual reports.

Figure 2: Potential Changes in Preference Customers' Rates in Each State and the PMAs' Shares of Total State Power Consumption



Note: We did not include Southeastern's sales to TVA, as described in app. III. The figure also excludes any power purchased from the Bonneville Power Administration.

Source: GAO's analysis of data provided by DOE's Energy Information Administration and Southeastern's, Southwestern's, and Western's 1995 annual reports

As shown in figure 2, in virtually every state Southeastern serves, at least 85 percent of the preference customers may see relatively small rate increases.¹⁰ Slightly more than half of the PMA's preference customers may see increases of less than 0.1 cent per kWh. If these preference customers pass their rate increases through proportionally to the residential end-users they serve, the residential end-users would see their average monthly electricity bill increase by \$1 or less. In most of Southeastern's states, the maximum increase that a preference customer would pass on to its residential end-users ranges between \$1 and \$8 per month, depending on the state. The only relatively large rate increase for a preference customer served by Southeastern may be in Illinois, which has one preference customer.

In states served by Western, preference customers may see a variety of rate increases.¹¹ For example, as shown in figure 2, over 75 percent of the preference customers in California, Colorado, and Nebraska may experience relatively small rate increases. In these three states, residential end-users served by most preference customers would see less than \$2.50 increases in their average monthly electricity bills. However, a significant number of Western's preference customers may see moderate increases. As shown in figure 2, at least 25 percent of the preference customers in many Western states, such as Iowa, Minnesota, and South Dakota, may experience average rate increases from greater than 0.5 cent up to 1.5 cents per kWh. If these preference customers proportionally pass these costs along to their residential end-users, the end-users would pay from \$3 to \$14 more in their average monthly electric bills, depending on the state.

Finally, in several states served by Western, a number of preference customers may see average rate increases that exceed 1.5 cents per kWh.

¹⁰Southeastern's preference customers are located in Alabama, Florida, Georgia, Illinois, Kentucky, Mississippi, North Carolina, South Carolina, and Virginia. As mentioned, a map showing each PMA's service territory is included in app. II.

¹¹Western's preference customers are located in Arizona, California, Colorado, Iowa, Minnesota, Montana, Nebraska, New Mexico, Nevada, North Dakota, South Dakota, Utah, Wisconsin, and Wyoming. In Kansas, Missouri, and Texas, most preference customers purchase power from Southwestern, although a few purchase power from Western.

For example, 60 percent of the preference customers in South Dakota and 33 percent of the customers in Utah may see rate increases exceeding 1.5 cents per kWh. In turn, residential end-users who receive power from these utilities would see larger increases in their electricity bills. For example, in states with larger rate increases,¹² if a preference customer's rate increases by 1.5 cents per kWh, residential end-users would pay about \$10 to \$15 more per month for electricity, depending on the state. Preference customers who may see these larger increases typically paid relatively low rates, ranging from 1.5 to 3.0 cents per kWh and bought most or all of their power from Western.

Taken together, Southwestern's preference customers may experience higher rate increases than Southeastern's customers but lower increases than Western's.¹³ As shown in figure 2, in most of Southwestern's states, a majority of the preference customers may see relatively small increases of 0.5 cent per kWh or less on base rates that typically ranged from 1.5 to 3.5 cents. In turn, residential end-users that receive power from most of Southwestern's preference customers' would see their electricity bills increase by less than \$3 a month. However, in Oklahoma, 79 percent of the preference customers may see larger increases that exceed 1.5 cents per kWh. Most of these customers paid less than 1.5 cents per kWh—less than half the 1995 national average market rate—and purchased all of their power from Southwestern. Residential end-users of these preference customers typically would pay about \$22 more in their average monthly electricity bills.

As we discussed in our March 1998 report, it is important to remember that in many cases where rate increases may be relatively large (greater than 1.5 cents per kWh), the preference customers paid about 1 to 1.5 cents per kWh in 1995 for PMA power. These rates on average were about 2.5 to 3 cents per kWh lower than what utilities paid in the private market nationwide. Conversely, in many cases where rate increases may be relatively small, that is, 0.5 cent per kWh or less, preference customers generally paid rates close to the market rates. If market rates are charged (after a PMA divestiture or otherwise),¹⁴ preference customers would pay the same rates as utilities that lack access to PMA power. As we discussed

¹²These are states where 33 percent or more preference customers may see rate increases of 1.5 cents per kWh or greater.

¹³Southwestern's preference customers are located in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas.

¹⁴In commenting on our draft report, DOE stated that market rates would not necessarily be charged if a PMA is divested to a public utility.

in our March 1998 report, if the Congress chose to change the status quo regarding rates, it could mitigate the size of potential rate increases by using several approaches, such as establishing rate caps.

A preference customer's rate increase also depends on what portion of its total power comes from the PMA. Generally, the less a preference customer relies on a PMA's power, the less the rate increase may be. Preference customers in states served by Southeastern may experience small increases because they purchase a small portion of their power from the PMA. In 1995, 99 percent of Southeastern's preference customers purchased less than 25 percent of their power from the PMA. Overall, most preference customers purchase a majority of their power from sources other than the PMAs and, as a result, currently pay market rates for that power. In contrast, preference customers that purchase a large portion of their power from a PMA are more likely to experience larger increases. For example, among the 60 percent of the preference customers in South Dakota that may experience rate increases of at least 1.5 cents per kWh if market rates are charged, most bought over 70 percent of their power from the PMA in 1995. Overall, PMA power represented about 23 percent of South Dakota's total electricity consumption in 1995. Usually, preference customers that rely on a PMA for most or all of their power are smaller utilities that deliver 100,000 megawatthours or less to their end-users annually.¹⁵

It is important to also note that because our estimates of potential rate increases are based on market rates in 1995, our methodology is conservative. If prices for wholesale power decline in the future, as many industry analysts and DOE officials believe they will, customers' rate increases generally will be smaller than our estimates.

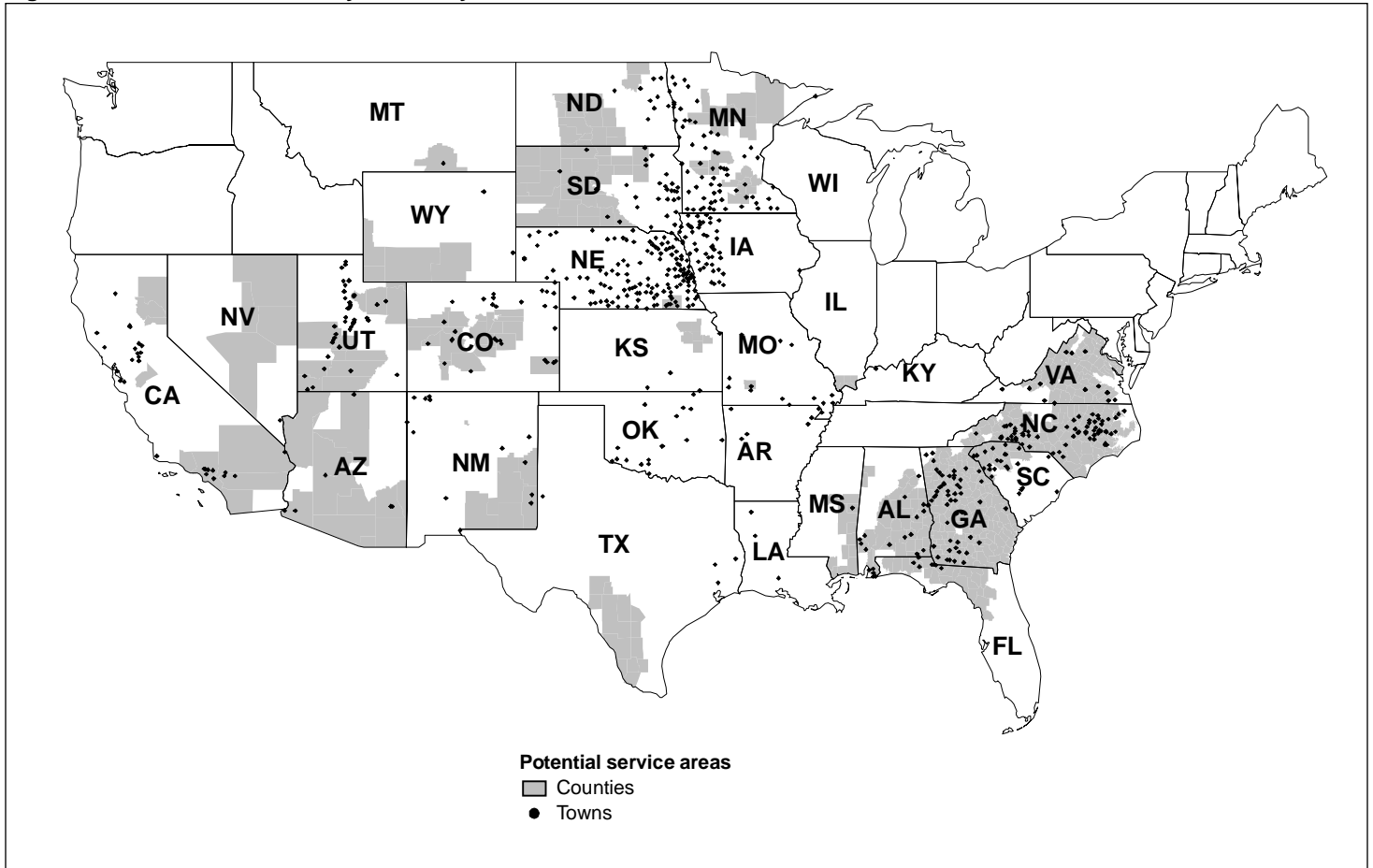
Finally, the likely rate increases we discuss—from relatively small to relatively large, if the preference customers pay market rates for PMA power—would usually affect a relatively small portion of the power consumed in each state, as shown by the shading or patterns in the states in figure 2. We found that the portion of the total power consumed in a state that was provided by the three PMAs was generally relatively small. For example, the PMAs provided 5 percent or less of the total power consumption in 22 of the 29 states in our analysis. The average for the 29 states was 2 percent.

¹⁵For more information, see [GAO/RCED-98-43](#), pp. 79-85.

Preference Customers Serve Varying Portions of Many States

As shown in figure 3, preference customers that are directly served by Southeastern, Southwestern, and Western reported serving varying portions of 29 states across the nation. We did not include customers that receive PMA power indirectly, that is, through direct preference customers of the PMAS—generation and transmission cooperatives and municipal joint action agencies—because, with very few exceptions, the PMAS' 1995 annual reports do not list them.

Figure 3: Potential Areas Directly Served by Preference Customers of Southeastern, Southwestern, and Western



Notes: Preference customers may actually provide power to only portions of the counties and/or towns they report serving. Under the reporting format of *Electrical World*, preference customers are asked to cite the counties and/or towns they serve, as opposed to the specific geographic boundaries of their service areas. In many cases, several utilities report serving the same county and the actual service area may be smaller than the areas they report serving. App. IV contains, for each state, a map depicting the counties and towns reported by the customers that reported receiving power directly from the PMA, followed by a complete list of those locations.

Our map includes only the counties and towns that preference customers serve directly and does not include preference customers such as generation and transmission cooperatives or municipal joint action agencies, who buy PMA power and then resell it to other publicly owned utilities. The annual reports for Southeastern and Western do not include these utilities as customers, while Southwestern's does in two cases.

Sources: GAO's analysis of data provided by Southeastern's, Southwestern's, and Western's 1995 annual reports and *Electrical World: Directory of Electric Power Producers* (1997 ed.).

As the figure shows, in most states, the areas the preference customers reported serving directly cover less than half the state. For example, very small portions of Arkansas, Louisiana, and Missouri are served by preference customers. In some cases, small areas are served in part because only a few preference customers directly serve the state. For example, Illinois and Wisconsin have only one preference customer to serve residential end-users, while Kentucky and Montana have three. Other states have more preference customers, but in some cases they serve counties and towns that are concentrated in portions of the state. For example, South Carolina's 26 preference customers reported serving areas almost exclusively in the northwestern corner of the state. The seven preference customers in Wyoming reported serving four counties, which are clustered in the southwestern and south central portions of the state and two towns but no other areas in the rest of the state. Similarly, the eight preference customers in Texas reported serving 17 counties in the south central part of the state and five towns in eastern Texas but did not serve the rest of the state.

Additionally, as depicted in figure 3, large portions of several of Southeastern's and Western's states receive service directly from preference customers. For example, preference customers reported serving almost every county in Georgia and most of the counties in North Carolina and Virginia. In these states, many counties received service from two or more preference customers. In Nebraska, preference customers reported serving over 130 towns located around the state.

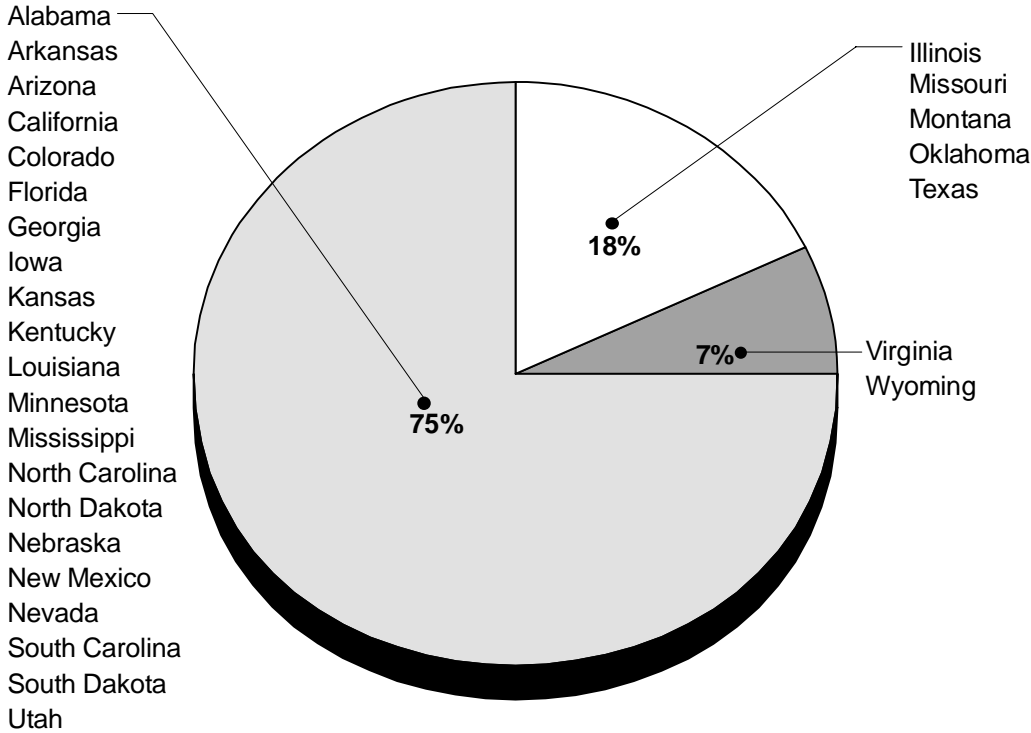
Finally, regardless of their geographic coverage, we found, as shown in figure 2, that the preference customers generally provided a relatively small portion of the total power consumed in each state.

In Income, End-Users Are Similar to the Population of the Entire State; Most Service Areas Are Either Urban or "Mixed"

Although preference customers serve areas with incomes lower than the national average, most of the households they serve have incomes that are similar to those in the entire state. As shown in figure 4, in 21 of 28 states,¹⁶ households in the counties and towns preference customers report serving had median incomes within 15 percent of the statewide median income, as reported in the 1990 census.

¹⁶We did not include median income data for Wisconsin because the one preference customer in this state does not provide retail service to residential end-users.

Figure 4: Proximity of Median Incomes in Preference Customers' Reported Service Areas and the Entire State



Comparison of median household incomes
(1) of service areas and (2) statewide

- Statewide income is higher by more than 15 percent
- The two incomes are within 15 percent of each other
- Service areas' income is higher by more than 15 percent

Sources: GAO's analysis of data provided by Southeastern's, Southwestern's, and Western's 1995 annual reports; Electrical World: Directory of Electric Power Producers (1997 ed.); and 1989 data provided by the Census Bureau.

In some states, the median incomes of the end-users and statewide are close because almost every county in the state receives power from preference customers. For example, in Georgia, preference customers

reported serving 151 of the state's 159 counties. Furthermore, the distribution of income for households receiving PMA power generally mirrors the distribution of household income in the entire state. For example, in Alabama, about 35 percent of the households in preference customers' service areas had annual incomes of less than \$15,000 in 1989, while 24 percent had incomes exceeding \$40,000. Similarly, in the entire state, 33 percent of the households had annual incomes under \$15,000, and 26 percent had annual incomes exceeding \$40,000. This compares with the 1995 national average household income of \$35,004.

However, in a few cases, preference customers serve areas that are significantly poorer than the remainder of the state. For example, in 1989 in Texas, the median income of the households preference customers served was almost 40 percent lower than median household income of \$27,016 in the entire state. In preference customers' service areas, over 45 percent of the households had annual incomes smaller than \$15,000, compared with 28 percent of the households in the entire state. Similarly, in Montana, preference customers served households with median incomes 20 percent, or about \$4,500, below the state median of \$22,988. In commenting on our draft report, DOE officials noted that the PMAs also provide a valuable service to Indian reservations, which are among the poorest areas of the nation. Our analysis shows, for example, that about 53 percent of the households in Shiprock, New Mexico, which is located on the Navajo Indian Reservation, had median incomes of less than \$15,000, compared with about 31 percent statewide.

In contrast, preference customers in some states send PMA power to a number of counties and towns where a large portion of the households have relatively high incomes. For example, in California, preference customers reported serving areas in the southern part of the state such as Orange County, where about 45 percent of the households had incomes in 1989 exceeding \$50,000—at least 40 percent higher than the state median income of \$35,798. In the northern part of the state, preference customers reported serving Palo Alto, where 55 percent of the households had incomes exceeding \$50,000. Throughout California, about 45 percent of the households in areas preference customers reported serving had annual incomes exceeding \$40,000. Similarly, in Colorado, about 33 percent of the households in Aspen had 1989 incomes that exceeded \$50,000 or at least 65 percent greater than the state median income of \$30,140.

We estimate that, overall, about 53 percent of the towns that preference customers reported serving are urban.¹⁷ States where most of the towns are urban include California, Georgia, and North Carolina. In addition, about 47 percent of the towns preference customers reported serving are rural. States where large numbers of these towns are rural include Florida, Iowa, and Nebraska. Less than 1 percent of the towns are “mixed”—that is, they have populations that are neither urban nor rural. Most counties that preference customers reported serving, or about 52 percent, are mixed. Alabama and South Carolina, for example, have high percentages of mixed counties. About 39 percent of the counties are rural, about 9 percent of the counties are urban. North Dakota and South Dakota have large proportions of rural counties.

Finally, although preference customers sell PMA power in many less densely populated areas, most of the households they serve are located in a small number of more urbanized places. This suggests that most PMA power is consumed by customers in more highly urbanized places. For example, although preference customers reported serving 150 counties in Georgia, 11 of those counties contain over half of the households in the areas preference customers reported serving.

Agency Comments

We provided copies of a draft of this report to DOE for its review and comment. We received comments from DOE’s Power Marketing Liaison Office, which is responsible for Southeastern, Southwestern, and Western, and have included its comments and our responses as appendix V.

DOE commented that our data sources were flawed because we relied on incomplete and/or inaccurate data and that it was impossible to have confidence in conclusions drawn from analysis of the data. To address each of our objectives, our analyses used data reported by the PMAs and their preference customers—data that we believe to be the best available. DOE recognizes that obtaining complete data on the electric utility industry is not easy. We believe that we used the data appropriately to satisfy the objectives of our review and that our methodology is sound. However, we agree that the data we used have limitations, and we have pointed out the limitations in our report. Many of the concerns that DOE expressed do not deal with the data we used but with the definition of a preference customer of a PMA. DOE stated that our analyses omitted generation and

¹⁷We classified a county or town as urban or rural if at least 80 percent of its population is defined as urban or rural by the Census Bureau. The Census Bureau generally considers an area to be urban if its population is 2,500 or more. If a county or town is less than 80 percent urban or rural, we classified it as “mixed.”

transmission cooperatives, their members, and municipal joint action agencies. For our analysis, we included only the preference customers who purchased power directly from the PMAS—as listed in the PMAS’ 1995 annual reports. We did not include generation and transmission cooperatives, their members, or municipal joint action agencies because the annual reports of two of the three PMAS—Southeastern and Western—do not include them in their lists of customers. Because Southeastern and Western together represent over 90 percent of the total preference customers of the three PMAS, we used their approach. If our rate analysis had included the utilities that indirectly buy PMA power through preference customers, the rate increases for these utilities would have been, at most, the same as the increases for the preference customers. For our analysis of urban/rural populations, we used the counties and towns that the preference customers that were included in our rate analysis reported to Electrical World: Directory of Electric Power Producers. We acknowledge that the data in Electrical World may not match the actual service territories. However, we used these data because they were reported by the preference customers and were the best available.

DOE also stated that using 1995 data does not reflect today’s market situation. As the electricity market continues to evolve, many industry experts believe that market rates for wholesale power have declined since 1995 and will fall farther. If market rates fall more than the PMAS’ rates, our estimates of rate increases will prove to be overstated. We have seen no evidence that the PMAS’ overall rates have fallen more than rates in the wholesale market. DOE also commented that more balance was needed in our report because the report goes beyond reporting data and does not present all opposing points of view. We believe that our report is balanced and that, throughout the report, we present a neutral description of our objectives and findings. Nevertheless, we have added additional detail to our report, such as including all options for the PMAS’ future role in the changing electricity market and noting that a PMA provides power to Native American households with low incomes.

We met with officials from the American Public Power Association¹⁸ and National Rural Electric Cooperative Association,¹⁹ which are national representatives of the PMAS’ preference customers, and discussed the

¹⁸The American Public Power Association is the national trade association representing over 2,000 municipal and other state and local government-owned electric utilities.

¹⁹The National Rural Electric Cooperative Association is the national service organization that represents the national interests of cooperative electric utilities and the consumers they serve.

methodology we used to perform our analysis and the results we obtained. On our rate analysis, the officials commented that certain preference customers may see larger rate increases than what we estimated because, to replace the power they buy from the PMAs, they would pay more than what they paid for non-PMA power in 1995. The officials also commented that, although we classified many of the rate increases as relatively small, these increases could nonetheless have significant economic impacts on preference customers or their end-users. However, these officials said that they could not provide more detailed comments until they and the members of their organizations had an opportunity to review the final report and its appendixes.

We also met with representatives of the Edison Electric Institute²⁰ and discussed the methodology we used to perform our analysis and the results we obtained. They commented that our analysis was credible, although they suspected that it could have overstated the rate increases that may occur because competition is increasing and market rates for electricity have been declining. They believe that the impact of the preference customers' paying market prices for power would be quite modest. They also commented that, if the wholesale rate impacts were translated to the prices that the ultimate consumer would see, the impacts would be even less.

We conducted our review from May through November 1998 in accordance with generally accepted government auditing standards.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to appropriate House and Senate committees and subcommittees; interested Members of the Congress; the Administrators of Southeastern, Southwestern, and Western; and other interested parties. We will also make copies available to others upon request.

²⁰The Edison Electric Institute is the association of investor-owned electric utilities in the United States and industry affiliates and associates worldwide.

If you have any questions or need additional information, please contact me on (202) 512-3841. Major contributors to this report are listed in appendix VI.

A handwritten signature in black ink that reads "Susan D. Kladiva". The signature is written in a cursive style with a large initial 'S' and a distinct 'K'.

Susan D. Kladiva
Associate Director, Energy,
Resources, and Science Issues

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Abbreviations

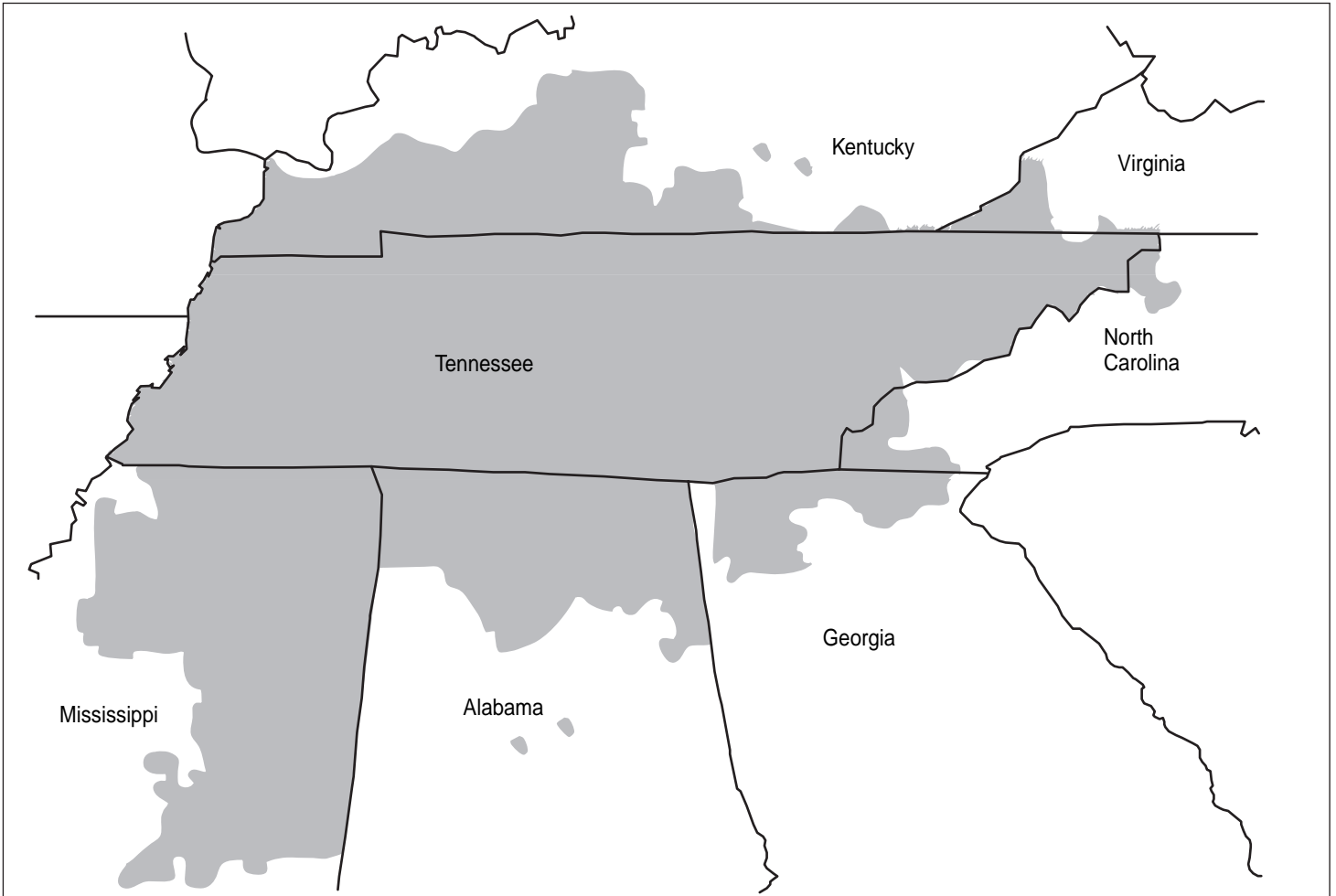
DOE	Department of Energy
EIA	Energy Information Administration
GAO	General Accounting Office
kWh	kilowatthour
MEA	municipal energy agency
PMA	power marketing administration
TVA	Tennessee Valley Authority

Tennessee Valley Authority's Service Area

The Tennessee Valley Authority (TVA) sells power to 159 municipal and cooperative distributors and to a number of directly served large industrial customers and federal agencies. As shown in figure I.1, TVA sells power to customers located in Tennessee and parts of six other states in the Southeast. According to the Southeastern Power Administration (Southeastern), TVA purchased nearly 1.9 billion kilowatthours (kWh) of electricity from the PMA in fiscal year 1995 and over 2.9 billion kWh of electricity in fiscal year 1996 for resale to TVA's municipal and cooperative distributors. However, as described in appendix III, we did not include Southeastern's sales to TVA in our analysis.

Appendix I
Tennessee Valley Authority's Service Area

Figure I.1: Map of TVA's Service Area

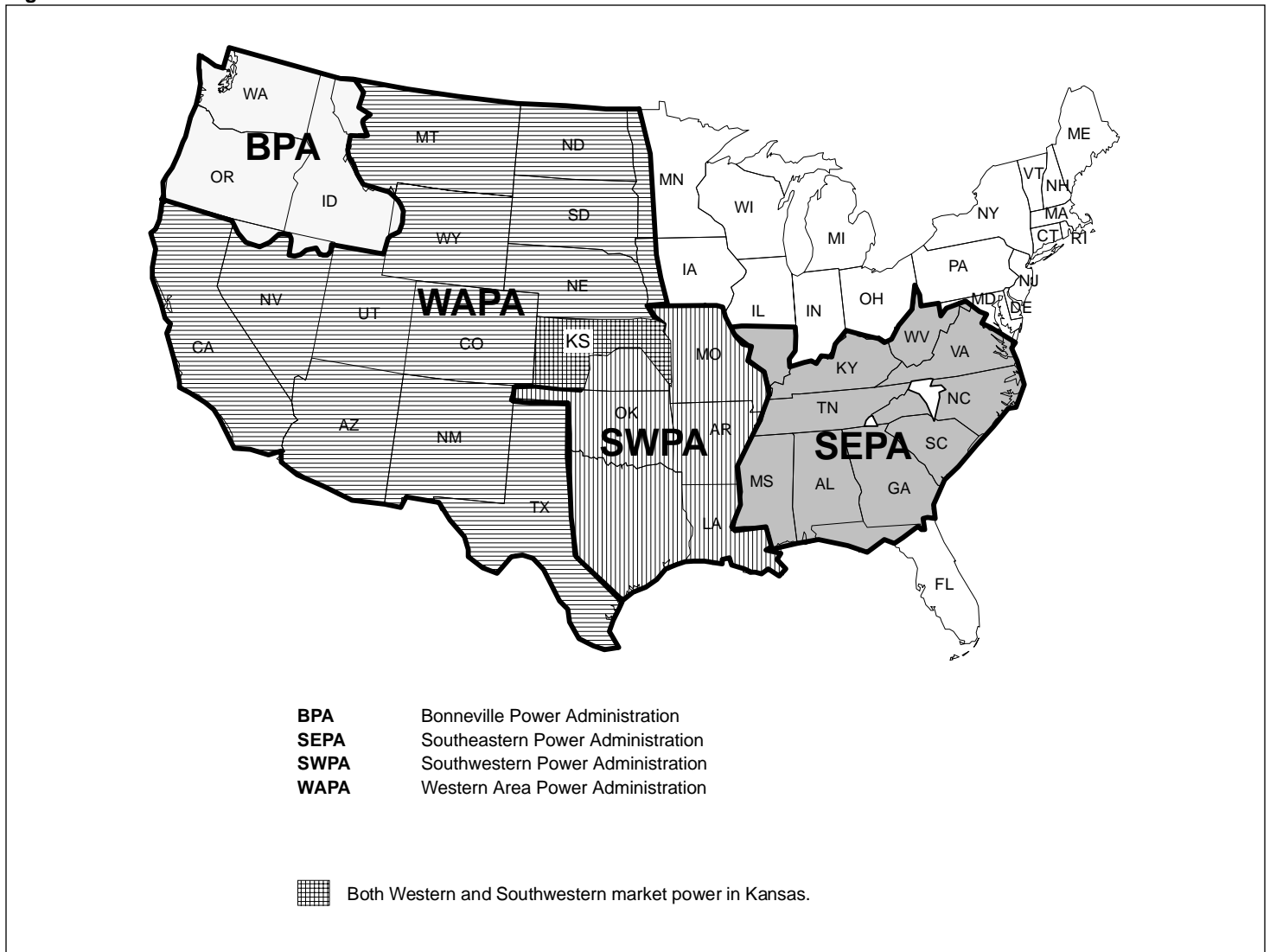


Source: TVA's 1996 annual report.

Power Marketing Administrations' Service Areas

As figure II.1 shows, according to the Department of Energy (DOE), its power marketing administrations (PMA) serve preference customers located in all or parts of 34 states.

Figure II.1: The Service Areas of the PMAs



Note: We included Wisconsin in our analysis because it has one preference customer, although this customer does not sell power at the retail level.

Source: Developed by GAO from data provided by DOE and the PMAs.

Objectives, Scope, and Methodology

Since the New Deal, the federal government has established about 130 water projects that—in addition to promoting agriculture, flood control, navigation, and other activities—produce electric power. To sell this power to large portions of rural America, the federal government created five PMAS and TVA.

Now that nearly all of America has electricity, some believe the PMAS have completed their mission and should be divested. Others suggest that the PMAS be required to charge market rates for power. However, since PMAS have historically served rural areas, concerns have been raised that a change in PMAS' ownership or the means by which they establish rates could adversely affect the rural or poorer areas they serve. Yet few analyses to date have identified the places that ultimately consume PMA power or the characteristics of the households the preference customers serve.

To aid in congressional deliberations on the future role of the PMAS, you requested that we provide a state-by-state analysis of the preference customers who buy power from Southeastern, Southwestern, and Western. More specifically, you asked that we identify (1) the extent to which preference customers' rates may change by state if market rates are charged, (2) the areas the three PMAS' preference customers report serving, and (3) the incomes in these areas and the extent to which they are urban or rural.

Estimating Preference Customers' Potential Rate Changes

To estimate how much preference customers' rates may change if the customers paid market rates for the power they currently purchase from the PMA, we calculated the average rates that each PMA preference customer¹ paid for wholesale power from (1) all sources, including the PMAS, and (2) sources other than the PMA, including the wholesale market, in 1995.² Then, we took the difference between these two rates, considering the latter to be the market rate.

Estimating the potential changes required several steps and assumptions. First, to calculate how much preference customers paid for the PMAS'

¹For our analysis, we considered preference customers who are included in the Energy Information Administration's Form 861 database of electric utilities. As a result, we did not include retail customers that are owned by state or federal governments, such as hospitals or military installations.

²As agreed with your offices, we used 1995 data to conform with analyses we performed in preparation of a previous report, [GAO/RCED-98-43](#).

power, we obtained data from Southeastern's,³ Southwestern's, and Western's fiscal year 1995 annual reports. Then, to learn how much each preference customer paid for the power it purchased from other sources, we used the "sales for resale" databases compiled by the Energy Information Administration (EIA).⁴ We found that for about one-third of the three PMAs' preference customers, EIA's data lacked the volumes of wholesale power the customers purchased from non-PMA sources, the amounts the customers paid for power, or both.⁵ In these cases, we assumed the customer paid a rate equal to the average market rate paid by customers of the same type (for example, municipal utilities and cooperatives) for wholesale power in the customer's state. We then combined each preference customer's purchases of PMA power and non-PMA power to estimate how much the customer paid for wholesale power from all sources in 1995.

Second, to estimate how each preference customer's rates would change if it paid market rates for PMA power, we assumed that the customer would pay a rate equal to the average rate it paid for wholesale power from sources other than the PMA(s) in 1995. We used this assumption because it is likely that in the period immediately after a divestiture, the new owners of the PMAs' assets would charge the prevailing market rates for wholesale power in the area.⁶ We also took this approach because we were unable to obtain forecasts of future wholesale rates. Although EIA used its National Energy Modeling System to forecast future electricity

³We did not include TVA in our rate analysis because we believe it is different from other preference customers in ways that made our method of estimating rate changes inapplicable, for two reasons. First, our methodology calculated the average rate each preference customer paid in 1995 for its purchases of power from all sources. However, unlike other preference customers, TVA generated over 97 percent of the power that it sold. Because TVA purchases so little of the power it sells, we did not believe that it was appropriate to apply this approach. Second, in our analysis, we used the Energy Information Administration's data to determine the state in which each preference customer primarily sells retail power. Each preference customer and its total sales were assigned to one state. The Energy Information Administration's state designation for TVA was Alabama. However, since TVA sells large quantities of power to distributors in seven states, we did not believe that it was appropriate to assign the entire 1.9 billion kWh that Southeastern sold to TVA in 1995 to Alabama. Also, TVA did not report the counties and towns in its service territory in *Electrical World: Directory of Electric Power Producers*. We, therefore, did not include TVA's service territory in our state maps. (A less detailed map of TVA's territory is included in app. I.) We also could not analyze the income and urban/rural characteristics associated with the area served by TVA.

⁴Specifically, we used EIA's PURCH.Y95 and SALES.Y95 databases, which contain utilities' purchases and sales of wholesale power to other utilities.

⁵EIA officials stated that the data were missing for several reasons, including that the PMAs' customers were so small that they did not have to file the reports EIA uses to compile the "sales for resale" data (the Federal Energy Regulatory Commission's Form 1 and EIA's Form EIA-412).

⁶In commenting on our draft report, DOE stated that market rates would not necessarily be charged if a PMA is divested to a public entity.

rates,⁷ according to agency officials, its projections are only for retail rates.⁸ Others' projections of future wholesale rates are proprietary.

Finally, we compared the average rate each preference customer paid for all its power in 1995 with the rate the customer paid for the power it purchased from sources other than the PMA. The difference in these two rates represents our estimates in cents per kWh of each customer's potential increase in average rates if it paid market rates for the power it currently purchases from the PMA.⁹

After estimating how much preference customers' rates may change, we analyzed the rate changes by state. To do this, we had to determine the state in which each preference customer primarily sells power. We obtained state designations for each preference customer from EIA's Form 861 database of utilities for 1995. However, in cases where the preference customer did not sell retail power, EIA did not provide a state designation. In these instances, we consulted EIA's PURCH and SALES databases of wholesale electricity transactions in 1995 and assigned the preference customer to the state where it sold most of its wholesale power.¹⁰ In the few cases where the preference customer did not sell a large majority of its power to a single state, we assigned the preference customer to the state where it is listed in the Electrical World: Directory of Electric Power Producers (1997 ed.).¹¹

Because we assumed that, after a divestiture, each customer would pay a rate for power that equals what the preference customer paid for non-PMA

⁷See Electricity Prices in a Competitive Environment (DOE/EIA-0614, Aug. 1997).

⁸We attempted to derive forecasts of wholesale prices from EIA's retail price forecasts by subtracting distribution costs from EIA's projections. We found, however, that our results were much higher than the national average rates for wholesale power that EIA reports in Financial Statistics of Major U.S. Investor-Owned Utilities. After consulting with EIA officials, we chose not to use EIA's retail price forecasts because they are based on the agency's judgmental assignment of electricity generators' costs to services, such as generation, transmission, and distribution, rather than actual sales data.

⁹We do not report our estimates as percentages: Since many preference customers paid relatively low base rates for power in 1995 (e.g., between 1 and 2 cents per kWh), smaller increases measured in cents would result in seemingly large percentage increases. For example, if a preference customer in 1995 paid an average of 1.5 cents per kWh for power, a relatively small increase of 0.5 cent per kWh would produce a seemingly large increase of 33 percent. In addition, if we expressed the rate increases as percentages, the same increase measured in cents per kWh would be reported as different increases for two customers with different base rates. For these reasons, we believe that reporting rate changes in cents per kWh better portrays the true impact of the change.

¹⁰According to EIA, as of November 1998, these data had not been released for 1996.

¹¹Electrical World: Directory of Electric Power Producers is a standard reference for data on the electricity industry. It compiles specific data on subjects such as individual utilities' power production capacities, power sales, sources of purchased power, distribution facilities, as well as the service areas, which are provided by the utilities themselves.

power in 1995, our methodology is conservative. If prices for wholesale power decline in the future, as many industry analysts and DOE officials believe they will, customers' rate increases would be smaller than our estimates.

It is important to note that we estimated potential rate increases for the preference customers that the PMAs listed in their 1995 annual reports. These customers buy power directly from the PMA. We did not include utilities that indirectly buy PMA power through direct preference customers such as generation and transmission cooperatives and municipal joint action agencies. We did not include these indirect customers because, with very few exceptions, the PMAs did not count them as customers in their 1995 annual reports.

Estimating Changes in Residential Customers' Electricity Bills

To estimate how each preference customer's rate change would affect the rates paid by its residential end-users, we assumed that (1) the preference customer would pass the rate change on proportionally to its end-users and (2) that each state's residential end-users would consume a quantity of electricity equal to the average residential consumption for that state in 1995, according to EIA. The monthly increase in a residential end-user's electricity bill equals the preference customer's rate increase after the PMA begins charging market rates (in cents per kWh) times the residential end-user's average annual electricity consumption for the appropriate state (in kWh), divided by 12.

Defining Preference Customers' Service Areas

To define the preference customers' service areas, we identified the counties and/or towns in Electrical World: Directory of Electric Power Producers (1997 ed.) that each of the customers in our analysis reported serving. As was true with our rate analysis, we included only the preference customers that purchased power directly from the PMAs—that is, those customers the PMAs listed in their 1995 annual reports. If we had included utilities that indirectly purchase PMA power (through direct preference customers), such as generation and transmission cooperatives and municipal joint action agencies, more counties and towns would be shown on our state service territory maps. According to DOE officials, many additional counties would be shaded in, among other states, Montana, South Carolina, and Wyoming.

Characterizing Incomes and Urban and Rural Populations in Preference Customers' Service Areas

To examine the incomes in areas that ultimately consume PMA power, we obtained 1990 census data (based on calendar year 1989) from the Census Bureau on household incomes in each county and town the preference customers reported serving in Electrical World.

To determine the degree to which preference customers' service areas were urban or rural, we obtained 1990 census data from the Census Bureau on the urban and rural populations in each county and town the preference customer reported serving. We classified a county or town as urban or rural if at least 80 percent of its population is urban or rural as defined by the Census Bureau.¹² If the county's or town's population is less than 80 percent urban or rural, we classified it as "mixed."

Because the PMAs historically are believed to have served areas that had lower median incomes and were less urbanized, our use of census data from 1990 yields conservative results, as income and urban populations generally increase over time.

We conducted our review from May through November 1998 in accordance with generally accepted government auditing standards.

We provided a draft of this report to DOE's Power Marketing Liaison Office, which represents the views of Southeastern, Southwestern, and Western. Its comments and our responses are included in appendix V. We also met with representatives of the American Public Power Association, the Edison Electric Institute, and the National Rural Electric Cooperative Association—national organizations representing groups concerned with the pricing of power provided by the PMAs, among other things—to discuss our methodology and the results of our review.

¹²The Census Bureau generally considers a place to be urban if its population is 2,500 or more.

Appendix III
Objectives, Scope, and Methodology

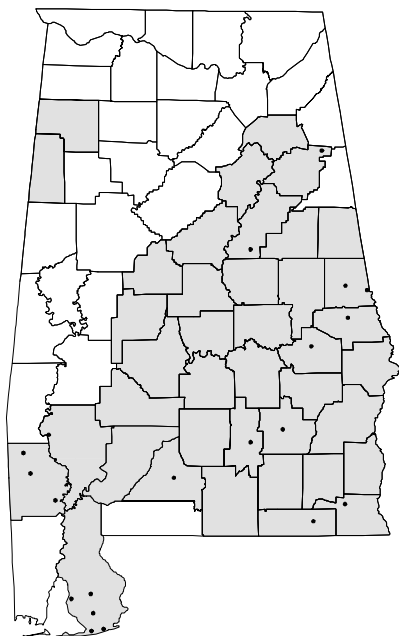
State-Specific Data on Potential Rate Impacts and Service Area Demographics

This appendix provides, for each state that receives PMA power from Southeastern, Southwestern, and/or Western, (1) the counties and towns that the preference customers included in our analysis report serving and a map showing these areas and (2) the estimated rate changes if market rates are charged, by number and percentage of preference customers; household incomes in areas potentially receiving power; the extent to which these areas are urban or rural; and the extent to which the individual state's total power consumption is provided by the PMA(s) through the preference customers included in our analysis.

To define the preference customers' service areas, we identified the counties and/or towns in Electrical World: Directory of Electric Power Producers (1997 ed.) that each of the customers considered in our analysis reported serving. As was true with our rate analysis, we included only the preference customers that purchased power directly from the PMAs—that is, those customers that the PMAs listed in their 1995 annual reports. If we had included utilities that indirectly buy PMA power (through direct preference customers), such as generation and transmission cooperatives and municipal joint action agencies, more counties and towns would be shown on our state service territory maps. According to DOE officials, many additional counties would be shaded in, among other states, Montana, South Carolina, and Wyoming.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.1: Potential Service Areas - Alabama



□ Counties (potential service areas)

- | | | |
|----------|-----------|------------|
| Autauga | Covington | Monroe |
| Baldwin | Crenshaw | Montgomery |
| Barbour | Dale | Perry |
| Bibb | Dallas | Pike |
| Bullock | Elmore | Randolph |
| Butler | Etowah | Russell |
| Calhoun | Geneva | Shelby |
| Chambers | Henry | St. Clair |
| Chilton | Houston | Talladega |
| Clarke | Lamar | Tallapoosa |
| Clay | Lee | Washington |
| Coffee | Lowndes | Wilcox |
| Conecuh | Macon | |
| Coosa | Marion | |

• Towns (potential service areas)

- | | |
|-------------|--------------|
| Chatom | Millry |
| Coffeeville | Opelika |
| Dothan | Orange Beach |
| Evergreen | Piedmont |
| Fairhope | Robertsdale |
| Foley | Sylacauga |
| Gulf Shores | Troy |
| Hartford | Tuskegee |
| Lafayette | |
| Lanett | |
| Luverne | |
| McIntosh | |

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.1: Potential Rate Impacts and Demographic Data - Alabama

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	25	92.6%
>0-0.5	1	3.7%
>0.5-1.0	1	3.7%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	27	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	217,255	34.4%
>\$15,000-\$20,000	63,400	10.0%
>\$20,000-\$25,000	58,969	9.3%
>\$25,000-\$30,000	52,706	8.4%
>\$30,000-\$35,000	46,989	7.4%
>\$35,000-\$40,000	39,021	6.2%
>\$40,000	152,904	24.2%
Median income	\$22,686	631,244 households
Statewide median income	\$23,597	1,506,009 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	40	2.5%	20.0%	77.5%
Towns	20	35.0%	65.0%	0%

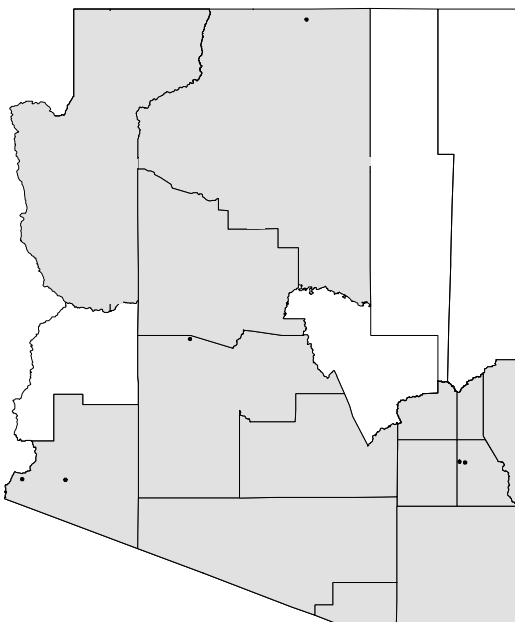
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	604,309,000	70,007,000,000	0.9%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.2: Potential Service Areas -
Arizona**



□ **Counties
(potential service areas)**

- Cochise
- Coconino
- Graham
- Greenlee
- Maricopa
- Mohave
- Pima
- Pinal
- Santa Cruz
- Yavapai
- Yuma

● **Towns (potential service areas)**

- Page
- Safford
- Thatcher
- Wellton
- Wickenburg
- Yuma

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.2: Potential Rate Impacts and Demographic Data - Arizona

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	2	12.5%
>0-0.5	5	31.3%
>0.5-1.0	6	37.5%
>1.0-1.5	1	6.3%
>1.5-2.0	0	0%
>2.0	2	12.5%
Total	16	100.1%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	323,654	24.7%
>\$15,000-\$20,000	131,773	10%
>\$20,000-\$25,000	126,112	9.6%
>\$25,000-\$30,000	114,836	8.7%
>\$30,000-\$35,000	105,223	8.0%
>\$35,000-\$40,000	90,724	6.9%
>\$40,000	419,774	32.0%
Median income	\$28,031	1,312,096 households
Statewide median income	\$27,540	1,371,885 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	11	0%	36.4%	63.6%
Towns	6	16.7%	83.3%	0%

State electricity consumption			
	PMA-provided in kWh	State total (in kWh)	Percent of state total from PMA
Consumption	1,114,981,000	48,589,000,000	2.3%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.3: Potential Service Areas -
Arkansas**



□ Counties (none) • Towns (potential service areas)

- Bentonville
- Clarksville
- Jonesboro
- Paragould
- Paris
- Piggott

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.3: Potential Rate Impacts and Demographic Data - Arkansas

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	4	57.1%
>0.5-1.0	2	28.6%
>1.0-1.5	0	0%
>1.5-2.0	1	14.3%
>2.0	0	0%
Total	7	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	12,506	35.4%
>\$15,000-\$20,000	4,170	11.8%
>\$20,000-\$25,000	3,576	10.1%
>\$25,000-\$30,000	3,202	9.1%
>\$30,000-\$35,000	2,570	7.3%
>\$35,000-\$40,000	2,065	5.9%
>\$40,000	7,202	20.4%
Median income	\$21,262	35,291 households
Statewide median income	\$21,147	891,665 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	0	0%	0%	0%
Towns	6	100%	0%	0%

State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,387,014,000	34,671,000,000	4.0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.4: Potential Service Areas -
California**



□ **Counties
(potential service areas)**

- Lassen
- Los Angeles
- Orange
- Plumas
- Riverside
- San Bernardino
- San Diego
- Sierra
- Stanislaus
- Ventura

● **Towns (potential service areas)**

- | | | |
|-----------|------------|-------------|
| Alameda | Gridley | Sacramento |
| Anaheim | Healdsburg | Santa Clara |
| Azusa | Isleton | Ukiah |
| Banning | Lodi | Vernon |
| Biggs | Lompoc | Wilton |
| Burbank | Needles | |
| Colton | Palo Alto | |
| Elk Grove | Pasadena | |
| Folsom | Redding | |
| Galt | Riverside | |
| Glendale | Roseville | |

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.4: Potential Rate Impacts and Demographic Data - California

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	3	9.1%
>0-0.5	23	69.7%
>0.5-1.0	4	12.1%
>1.0-1.5	1	3.0%
>1.5-2.0	1	3.0%
>2.0	1	3.0%
Total	33	99.9%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	1,126,506	18.5%
>\$15,000-\$20,000	445,498	7.3%
>\$20,000-\$25,000	464,619	7.6%
>\$25,000-\$30,000	443,741	7.3%
>\$30,000-\$35,000	449,468	7.4%
>\$35,000-\$40,000	398,025	6.5%
>\$40,000	2,756,712	45.3%
Median income	\$36,233	6,084,569 households
Statewide median \$ income	35,798	1 0,399,700 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	10	70%	10%	20%
Towns	27	92.6%	7.4%	0%

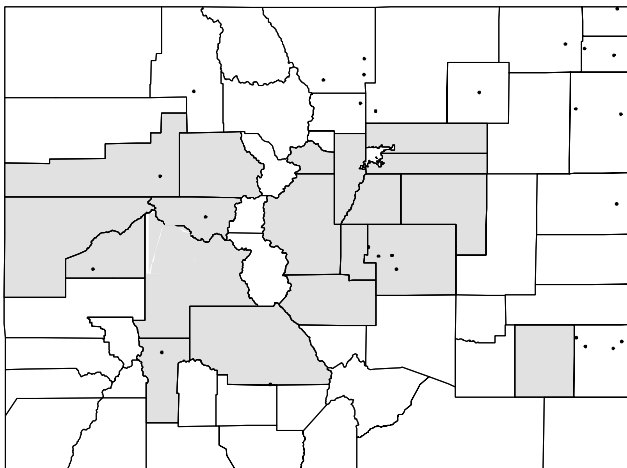
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	6,126,098,000	212,605,000,000	2.9%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.5: Potential Service Areas -
Colorado**



□ Counties (potential service areas)

- Adams
- Arapahoe
- Bent
- Clear Creek
- Delta
- Douglas
- Eagle
- El Paso
- Elbert
- Fremont
- Garfield
- Gunnison
- Hinsdale
- Jefferson
- Mesa
- Park
- Pitkin
- Prowers
- Saguache
- Teller

• Towns (potential service areas)

- Aspen
- Burlington
- Center
- Colorado Springs
- Crested Butte
- Delta
- Estes Park
- Fleming
- Fort Collins
- Fort Morgan
- Frederick
- Glenwood Springs
- Granada
- Green Mountain Falls
- Hartman
- Haxtun
- Holyoke
- Julesburg
- Lake City
- Lamar
- Longmont
- Loveland
- Manitou Springs
- Mount Crested Butte
- Oak Creek
- Security-Widefield
- Wiley
- Wray
- Yuma

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.5: Potential Rate Impacts and Demographic Data - Colorado

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	5	20.8%
>0-0.5	16	66.7%
>0.5-1.0	2	8.3%
>1.0-1.5	1	4.2%
>1.5-2.0	0	0%
>2.0	0	0%
Total	24	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	132,548	18.3%
>\$15,000-\$20,000	61,389	8.5%
>\$20,000-\$25,000	64,832	9.0%
>\$25,000-\$30,000	61,348	8.5%
>\$30,000-\$35,000	61,493	8.5%
>\$35,000-\$40,000	53,809	7.4%
>\$40,000	288,071	39.8%
Median income	\$33,116	723,490 households
Statewide median \$ income	30,140	1,285,119 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	20	25.0%	35.0%	40%
Towns	29	48.3%	51.7%	0%

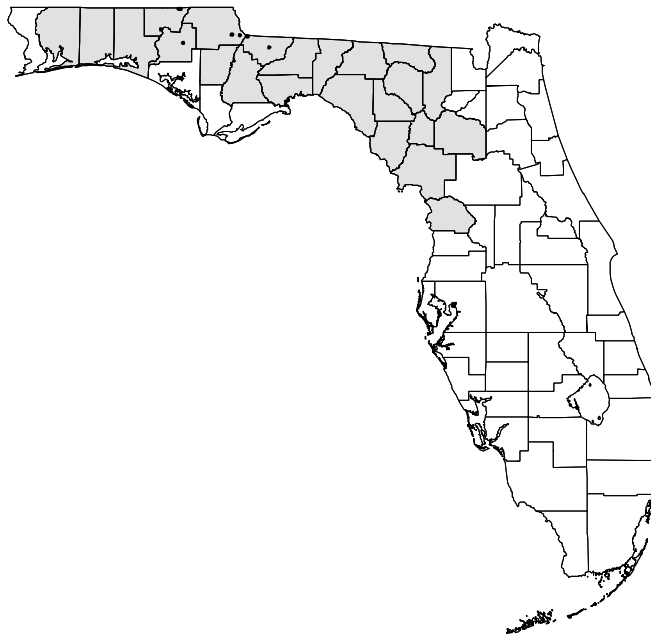
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	3,966,983,000	35,317,000,000	11.2%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.6: Potential Service Areas -
Florida**



□ **Counties
(potential service areas)**

Alachua	Leon
Calhoun	Levy
Citrus	Liberty
Columbia	Madison
Dixie	Okaloosa
Gadsden	Santa Rosa
Gilchrist	Suwannee
Hamilton	Taylor
Holmes	Wakulla
Jackson	Walton
Jefferson	Washington
Lafayette	

● **Towns (potential service areas)**

Chattahoochee
Esto
Grand Ridge
Noma
Quincy
Sneads
Wausau
Westville

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.6: Potential Rate Impacts and Demographic Data - Florida

Estimated rate changes if PMAs charge market rates		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	7	87.5%
\ 0.5-1.0	1	12.5%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	8	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	125,369	31.6%
>\$15,000-\$20,000	44,180	11.2%
>\$20,000-\$25,000	39,821	10.1%
>\$25,000-\$30,000	33,380	8.4%
>\$30,000-\$35,000	29,762	7.5%
>\$35,000-\$40,000	24,335	6.1%
>\$40,000	99,402	25.1%
Median income	\$23,421	396,249 households
Statewide median income	\$27,483	5,138,360 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	23	8.7%	39.1%	52.2%
Towns	8	25.0%	75.0%	0%

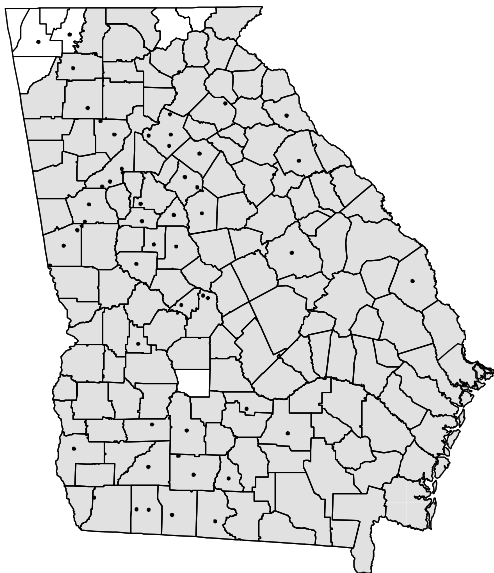
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	466,648,000	167,492,000,000	0.3%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.7: Potential Service Areas - Georgia



• Towns (potential service areas)

Acworth	Covington	Hogansville	Sandersville
Adel	Dalton	Jackson	Snellville
Albany	Doerun	La Fayette	Sylvania
Barnesville	Douglas	La Grange	Sylvester
Blakely	East Point	Lawrenceville	Thomaston
Brinson	Elberton	Mansfield	Thomasville
Buford	Ellaville	Marietta	Warner Robins
Cairo	Fairburn	Monroe	Washington
Calhoun	Fitzgerald	Monticello	West Point
Camilla	Forsyth	Moultrie	Whigham
Cartersville	Fort Valley	Newnan	
Centerville	Grantville	Norcross	
College Park	Griffin	Palmetto	
Commerce	Hampton	Quitman	

■ Counties (potential service areas)

Appling	Charlton	Early	Haralson	Lumpkin	Polk	Tift
Atkinson	Chatham	Echols	Harris	Macon	Pulaski	Toombs
Bacon	Chattahoochee	Effingham	Hart	Madison	Putnam	Treutlen
Baker	Cherokee	Elbert	Heard	Marion	Quitman	Troup
Baldwin	Clarke	Emanuel	Henry	McDuffie	Rabun	Turner
Banks	Clay	Evans	Houston	McIntosh	Randolph	Twiggs
Barrow	Clayton	Fannin	Irwin	Meriwether	Richmond	Upton
Bartow	Clinch	Fayette	Jackson	Miller	Rockdale	Walton
Ben Hill	Cobb	Floyd	Jasper	Mitchell	Schley	Ware
Berrien	Coffee	Forsyth	Jeff Davis	Monroe	Screven	Warren
Bibb	Colquitt	Franklin	Jefferson	Montgomery	Seminole	Washington
Bleckley	Columbia	Fulton	Jenkins	Morgan	Spalding	Wayne
Brantley	Cook	Gilmer	Johnson	Murray	Stephens	Webster
Brooks	Coweta	Glascok	Jones	Muscogee	Stewart	Wheeler
Bryan	Crawford	Glynn	Lamar	Newton	Sumter	White
Bulloch	Dawson	Gordon	Lanier	Oconee	Talbot	Wilcox
Burke	DeKalb	Grady	Laurens	Oglethorpe	Taliaferro	Wilkes
Butts	Decatur	Greene	Lee	Paulding	Tattnall	Wilkinson
Calhoun	Dodge	Gwinnett	Liberty	Peach	Taylor	Worth
Camden	Dooley	Habersham	Lincoln	Pickens	Telfair	
Candler	Dougherty	Hall	Long	Pierce	Terrell	
Carroll	Douglas	Hancock	Lowndes	Pike	Thomas	

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.7: Potential Rate Impacts and Demographic Data - Georgia

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	1	1.1%
>0-0.5	87	97.8%
>0.5-1.0	1	1.1%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	89	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	577,644	25.3%
>\$15,000-\$20,000	201,191	8.8%
>\$20,000-\$25,000	200,454	8.8%
>\$25,000-\$30,000	189,455	8.3%
>\$30,000-\$35,000	179,938	7.9%
>\$35,000-\$40,000	154,562	6.8%
>\$40,000	782,527	34.2%
Median income	\$29,237	2,285,771 households
Statewide median \$ income	29,021	2,366,575 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	151	8.0%	37.1%	55.0%
Towns	52	86.5%	13.5%	0%

State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,664,101,000	96,192,000,000	1.7%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.8: Potential Service Areas -
Illinois**



□ **Counties
(potential service areas)**

- Alexander
- Johnson
- Massac
- Pope
- Pulaski
- Union

● **Towns (potential service areas)**

- Karnak

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.8: Potential Rate Impacts and Demographic Data - Illinois

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	0	0%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	1	100.0%
Total	1	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of Households
<=\$15,000	10,721	41.8%
>\$15,000-\$20,000	2,649	10.3%
>\$20,000-\$25,000	2,446	9.5%
>\$25,000-\$30,000	2,114	8.2%
>\$30,000-\$35,000	1,845	7.2%
>\$35,000-\$40,000	1,391	5.4%
>\$40,000	4,515	17.6%
Median income	\$18,845	25,681 households
Statewide median \$ income	32,252.4	,197,720 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	6	50%	50%	0%
Towns	1	0%	100%	0%

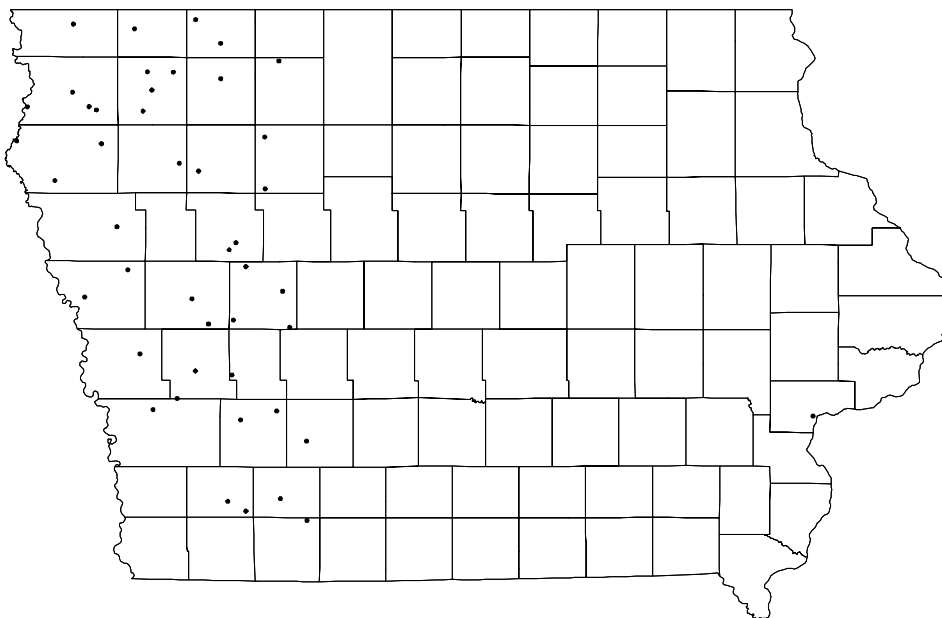
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	41,675,000	126,231,000,000	0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.9: Potential Service Areas - Iowa



- | | | | |
|-------------------|-----------------------------------|-------------|--------------|
| □ Counties (none) | ● Towns (potential service areas) | | |
| | Akron | Fonda | Laurens |
| | Alta | Fontanelle | Lenox |
| | Alton | Glidden | Manilla |
| | Anita | Graettinger | Manning |
| | Anthon | Harlan | Mapleton |
| | Atlantic | Hartley | Milford |
| | Aurelia | Hawarden | Muscatine |
| | Breda | Hinton | Neola |
| | Coon Rapids | Kimballton | Onawa |
| | Corning | Lake Park | Orange City |
| | Denison | Lake View | Paullina |
| | | | Primghar |
| | | | Remsen |
| | | | Rock Rapids |
| | | | Sanborn |
| | | | Shelby |
| | | | Sibley |
| | | | Sioux Center |
| | | | Spencer |
| | | | Stanton |
| | | | Villisca |
| | | | Wall Lake |
| | | | Woodbine |

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.9: Potential Rate Impacts and Demographic Data - Iowa

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	3	6.1%
>0-0.5	19	38.8%
>0.5-1.0	2	4.1%
>1.0-1.5	8	16.3%
>1.5-2.0	6	12.2%
>2.0	11	22.5%
Total	49	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of Households
<=\$15,000	9,087	31.1%
>\$15,000-\$20,000	3,276	11.2%
>\$20,000-\$25,000	3,180	10.9%
>\$25,000-\$30,000	2,756	9.4%
>\$30,000-\$35,000	2,555	8.7%
>\$35,000-\$40,000	2,048	7.0%
>\$40,000	6,333	21.7%
Median income	\$23,476	29,235 households
Statewide median income	\$26,229	1,065,243 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	0	0%	0%	0%
Towns	45	22.2%	77.8%	0%

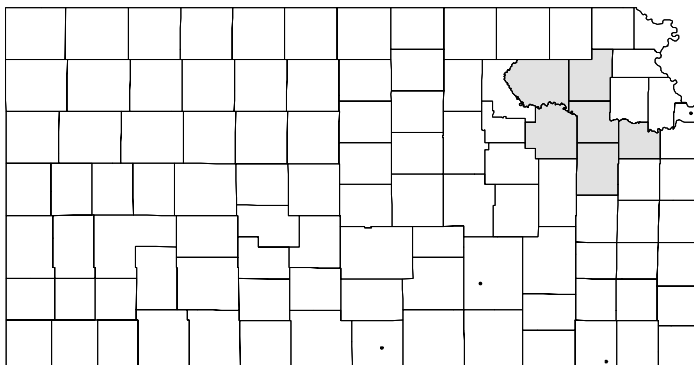
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,179,844,000	34,301,000,000	3.4%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.10: Potential Service Areas -
Kansas**



- | | |
|--|--|
| <p>▣ Counties
(potential service areas)</p> <ul style="list-style-type: none"> Douglas Jackson Osage Pottawatomie Shawnee Wabaunsee | <p>● Towns (potential service areas)</p> <ul style="list-style-type: none"> Anthony Augusta Coffeyville Kansas City |
|--|--|

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.10: Potential Rate Impacts and Demographic Data - Kansas

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	8	88.9%
>0.5-1.0	0	0%
>1.0-1.5	1	11.1%
>1.5-2.0	0	0%
>2.0	0	0%
Total	9	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	50,588	28.3%
>\$15,000-\$20,000	18,132	10.1%
>\$20,000-\$25,000	17,305	9.7%
>\$25,000-\$30,000	16,008	9.0%
>\$30,000-\$35,000	15,761	8.8%
>\$35,000-\$40,000	12,371	6.9%
>\$40,000	48,567	27.2%
Median income	\$25,967	178,732 households
Statewide median income	\$27,291	946,253 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	6	33.3%	33.3%	33.3%
Towns	4	100%	0%	0%

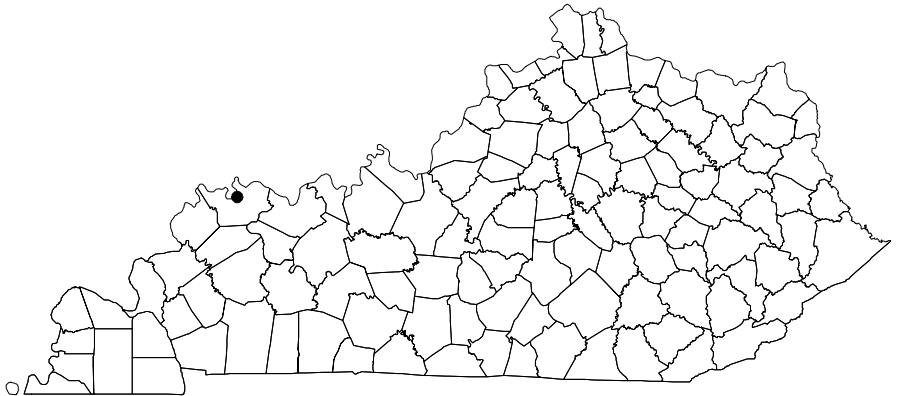
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	767,850,000	30,357,000,000	2.5%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.11: Potential Service Areas -
Kentucky**



□ Counties (none)

● Towns (potential service areas)

Henderson

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.11: Potential Rate Impacts and Demographic Data - Kentucky

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	2	66.7%
>0-0.5	1	33.3%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	3	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	3,771	35.9%
>\$15,000-\$20,000	1,067	10.2%
>\$20,000-\$25,000	840	8.0%
>\$25,000-\$30,000	919	8.8%
>\$30,000-\$35,000	788	7.5%
>\$35,000-\$40,000	576	5.5%
>\$40,000	2,539	24.2%
Median income	\$22,085	10,500 households
Statewide median income	\$22,534	1,379,610 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	0	0%	0%	0%
Towns	1	100%	0%	0%

State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	568,750,000	74,548,000,000	0.8%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.12: Potential Service Areas -
Louisiana**



- Counties (none)
- Towns
(potential service areas)
 - Lafayette
 - Minden
 - Natchitoches

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.12: Potential Rate Impacts and Demographic Data - Louisiana

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	4	80%
>0.5-1.0	1	20%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	5	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	17,816	38.1%
>\$15,000-\$20,000	4,421	9.4%
>\$20,000-\$25,000	3,977	8.5%
>\$25,000-\$30,000	3,248	6.9%
>\$30,000-\$35,000	3,008	6.4%
>\$35,000-\$40,000	2,640	5.6%
>\$40,000	11,709	25.0%
Median income	\$21,322	46,819 households
Statewide median income	\$21,949	1,498,371 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	0	0%	0%	0%
Towns	3	100%	0%	0%

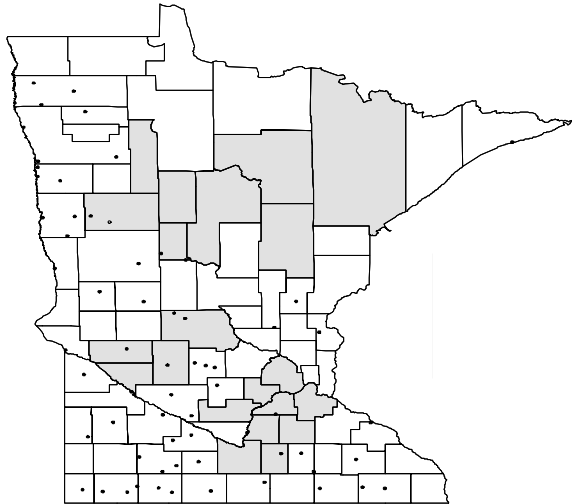
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	514,521,000	72,827,000,000	0.7%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.13: Potential Service Areas - Minnesota



□ **Counties
(potential service areas)**

Aitkin
Becker
Blue Earth
Carver
Cass
Chippewa
Clearwater
Dakota
Hennepin
Hubbard
Itasca
Kandiyohi
Le Sueur
Rice
Scott
Sibley
St. Louis

Stearns
Swift
Wadena
Waseca

● **Towns (potential service areas)**

Ada	Granite Falls	Mountain Lake	St. James
Adrian	Grove City	New Prague	St. Peter
Alexandria	Halstad	Newfolden	Staples
Austin	Hawley	Nielsville	Stephen
Barnesville	Henning	North Branch	Thief River Falls
Benson	Hutchinson	Olivia	Tyler
Blooming Prairie	Jackson	Ortonville	Wadena
Breckenridge	Lake City	Owatonna	Warren
Brewster	Lake Park	Preston	Waseca
Darwin	Lakefield	Princeton	Wells
Detroit Lakes	Litchfield	Redwood Falls	Westbrook
East Grand Forks	Luverne	Rochester	Willmar
Elbow Lake	Madison	Sauk Centre	Windom
Fairfax	Marshall	Shelly	Worthington
Fairmont	Melrose	Sleepy Eye	
Fosston	Moorhead	Spring Valley	
Grand Marais	Mora	Springfield	

Notes: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

According to DOE, no preference power is sold to customers in eastern Minnesota, although some customers have their headquarters offices in that part of the state.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.13: Potential Rate Impacts and Demographic Data - Minnesota

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	2	3.7%
>0-0.5	10	18.5%
>0.5-1.0	10	18.5%
>1.0-1.5	7	13.0%
>1.5-2.0	14	25.9%
>2.0	11	20.4%
Total	54	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	194,109	21.9%
>\$15,000-\$20,000	75,428	8.5%
>\$20,000-\$25,000	74,782	8.5%
>\$25,000-\$30,000	71,901	8.1%
>\$30,000-\$35,000	70,148	7.9%
>\$35,000-\$40,000	64,012	7.2%
>\$40,000	334,807	37.8%
Median income	\$31,678	885,187 households
Statewide median income	\$30,909	1,648,825 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	21	9.5%	28.6%	61.9%
Towns	65	52.3%	47.7%	0%

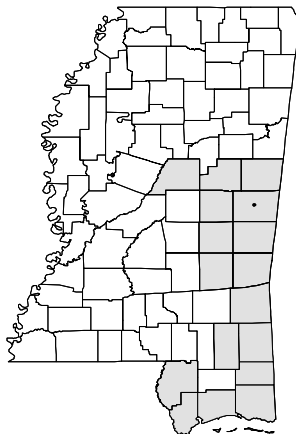
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	2,258,841,000	53,959,000	4.2%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.14: Potential Service Areas -
Mississippi**



- Counties (potential service areas)
- Towns (potential service areas)

- Attala
 - Clarke
 - George
 - Greene
 - Hancock
 - Harrison
 - Jackson
 - Jasper
 - Kemper
 - Lauderdale
 - Neshoba
 - Newton
 - Noxubee
 - Pearl River
 - Perry
 - Wayne
 - Winston
- De Kalb

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.14: Potential Rate Impacts and Demographic Data - Mississippi

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	3	60%
>0-0.5	2	40%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	5	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	83,478	37.2%
>\$15,000-\$20,000	24,709	11.0%
>\$20,000-\$25,000	21,708	9.7%
>\$25,000-\$30,000	19,389	8.6%
>\$30,000-\$35,000	15,925	7.1%
>\$35,000-\$40,000	12,951	5.8%
>\$40,000	46,120	20.6%
Median income	\$20,824	224,280 households
Statewide median income	\$20,136	910,574 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	17	11.8%	47.1%	41.2%
Towns	1	0%	100%	0%

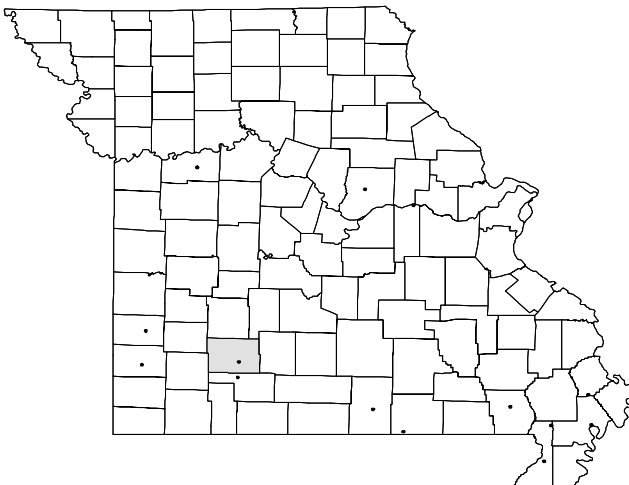
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	323,164,000	37,868,000,000	0.9%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.15: Potential Service Areas -
Missouri**



- | | |
|---|--|
| □ Counties
(potential service areas) | ● Towns (potential service areas) |
| Greene | Carthage |
| | Fulton |
| | Hermann |
| | Higginsville |
| | Kennett |
| | Lamar |
| | Malden |
| | New Madrid |
| | Nixa |
| | Poplar Bluff |
| | Sikeston |
| | Springfield |
| | Thayer |
| | West Plains |

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.15: Potential Rate Impacts and Demographic Data - Missouri

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	1	6.3%
>0-0.5	11	68.8%
>0.5-1.0	2	12.5%
>1.0-1.5	2	12.5%
>1.5-2.0	0	0%
>2.0	0	0%
Total	16	100.1%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	56,101	33.6%
>\$15,000-\$20,000	18,480	11.1%
>\$20,000-\$25,000	18,018	10.8%
>\$25,000-\$30,000	15,471	9.3%
>\$30,000-\$35,000	12,932	7.7%
>\$35,000-\$40,000	9,975	6.0%
>\$40,000	36,000	21.6%
Median income	\$22,256	166,977 households
Statewide median income	\$26,362	1,961,364 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	1	0%	0%	100%
Towns	14	92.9%	7.1%	0%

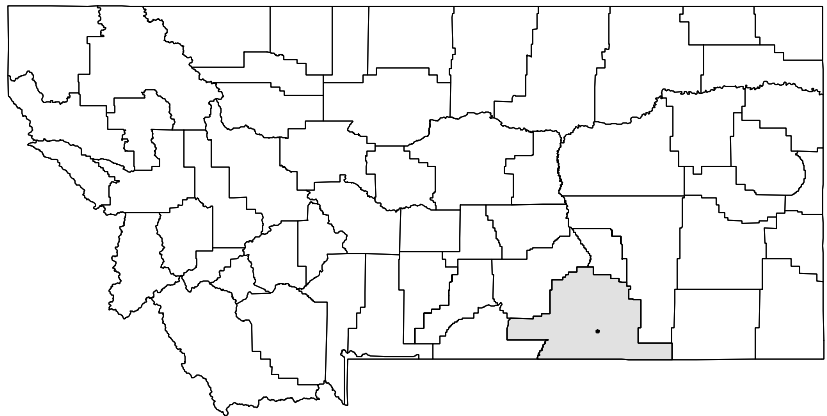
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	2,559,565,000	62,259,000,000	4.1%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.16: Potential Service Areas -
Montana**



- Counties (potential service areas)
- Towns (potential service areas)
- Big Horn
- Lodge Grass

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.16: Potential Rate Impacts and Demographic Data - Montana

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	2	66.7%
>0.5-1.0	1	33.3%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	3	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	1,594	44.8%
>\$15,000-\$20,000	306	8.6%
>\$20,000-\$25,000	387	10.9%
>\$25,000-\$30,000	247	7.0%
>\$30,000-\$35,000	251	7.1%
>\$35,000-\$40,000	183	5.2%
>\$40,000	587	16.5%
Median income	\$18,461	3,555 households
Statewide median income	\$22,988	306,919 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	1	0%	0%	100%
Towns	1	0%	100%	0%

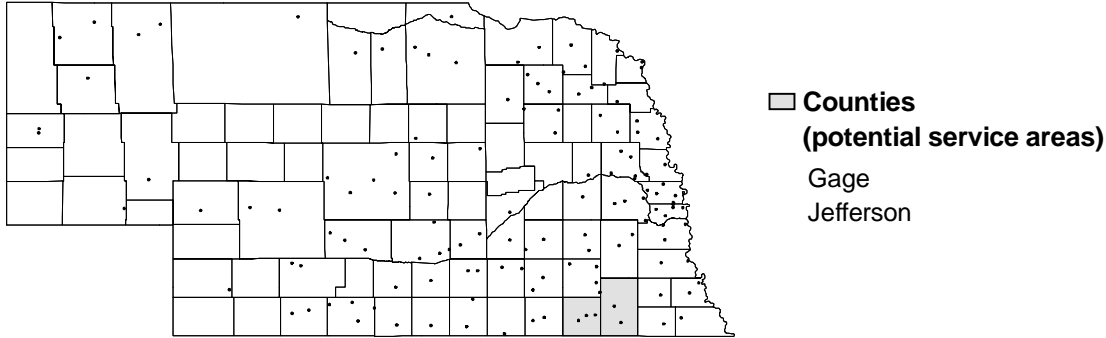
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	401,022,000	13,419,000,000	3.0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.17: Potential Service Areas - Nebraska



• Towns (potential service areas)

Ainsworth	Callaway	Gering	Kearney	Oakland	Schuyler	Valley
Alma	Cambridge	Gibbon	La Vista	Ogallala	Scottsbluff	Wahoo
Ansley	Central City	Gordon	Laurel	Omaha	Scribner	Wakefield
Arapahoe	Chadron	Gothenburg	Lexington	Ord	Seward	Wauneta
Arlington	Cozad	Grand Island	Lincoln	Oshkosh	Shelton	Waverly
Arnold	Crawford	Gretna	Lodgepole	Oxford	Shickley	Wayne
Ashland	Creighton	Harbine	Louisville	Papillion	South Sioux City	Weeping Water
Atkinson	Crete	Hartington	Loup City	Pawnee City	Spalding	West Point
Auburn	Curtis	Harvard	Lyons	Pender	Spencer	Weston
Aurora	Dakota City	Hastings	Madison	Peru	Springfield	Wilber
Bassett	David City	Hebron	Maywood	Pierce	Steele City	Winside
Beatrice	De Witt	Hemingford	McCook	Plainview	Stuart	Wisner
Beaver City	Deshler	Henderson	Milford	Plattsmouth	Superior	Wood River
Bellevue	Elkhorn	Holdrege	Minden	Ponca	Sutherland	Wymore
Bennington	Fairbury	Hooper	Nebraska City	Ralston	Sutton	York
Blair	Foster	Humboldt	Neligh	Randolph	Syracuse	Yutan
Bloomfield	Franklin	Indianola	Norfolk	Ravenna	Tecumseh	
Blue Hill	Fremont	Inglewood	North Bend	Red Cloud	Tekamah	
Broken Bow	Friend	Jansen	North Platte	Rushville	Tilden	
Burwell	Geneva	Juniata	O'Neill	Sargent	Valentine	

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.17: Potential Rate Impacts and Demographic Data - Nebraska

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	5	8.9%
>0-0.5	39	69.6%
>0.5-1.0	8	14.3%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	4	7.1%
Total	56	99.9%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	78,732	26.8%
>\$15,000-\$20,000	30,595	10.4%
>\$20,000-\$25,000	29,891	10.2%
>\$25,000-\$30,000	26,495	9.0%
>\$30,000-\$35,000	25,004	8.5%
>\$35,000-\$40,000	20,649	7.0%
>\$40,000	82,095	28.0%
Median income	\$26,294	293,461 households
Statewide median income	\$26,016	602,858 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	2	0%	0%	100%
Towns	135	31.1%	68.9%	0%

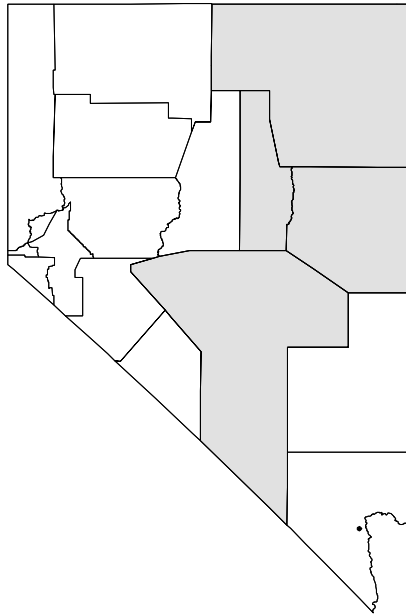
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	2,003,579,000	20,892,000,000	9.6%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.18: Potential Service Areas -
Nevada**



□ **Counties
(potential service areas)**

- Elko
- Eureka
- Nye
- White Pine

● **Towns (potential service areas)**

- Boulder City

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.18: Potential Rate Impacts and Demographic Data - Nevada

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	3	100%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	3	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	5,753	20.7%
>\$15,000-\$20,000	2,396	8.6%
>\$20,000-\$25,000	2,408	8.7%
>\$25,000-\$30,000	2,185	7.9%
>\$30,000-\$35,000	2,442	8.8%
>\$35,000-\$40,000	1,975	7.1%
>\$40,000	10,654	38.3%
Median income	\$32,039	27,813 households
Statewide median income	\$31,011	467,513 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	4	0%	25.0%	75.0%
Towns	1	100%	0%	0%

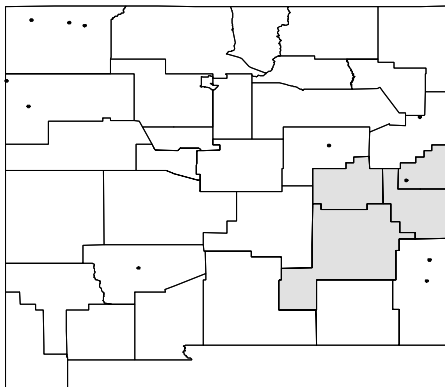
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,460,461,000	20,659,000,000	7.1%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.19: Potential Service Areas -
New Mexico**



□ **Counties
(potential service areas)**

- Chaves
- Curry
- DeBaca
- Eddy
- Lea
- Los Alamos
- Otero
- Roosevelt

• **Towns (potential service areas)**

- Aztec
- Bloomfield
- Farmington
- Fort Sumner
- Gallup
- Logan
- Lovington
- Melrose
- Navajo
- Santa Rosa
- Shiprock
- Tatum
- Truth or Consequences
- Williamsburg

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.19: Potential Rate Impacts and Demographic Data - New Mexico

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	7	63.6%
>0.5-1.0	1	9.1%
>1.0-1.5	2	18.2%
>1.5-2.0	1	9.1%
>2.0	0	0%
Total	11	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	40,998	31.7%
>\$15,000-\$20,000	14,466	11.2%
>\$20,000-\$25,000	13,364	10.3%
>\$25,000-\$30,000	10,802	8.4%
>\$30,000-\$35,000	9,811	7.6%
>\$35,000-\$40,000	8,254	6.4%
>\$40,000	31,724	24.5%
Median income	\$23,254	129,419 households
Statewide median income	\$24,087	543,825 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	8	25.0%	12.5%	62.5%
Towns	12	58.3%	41.7%	0%

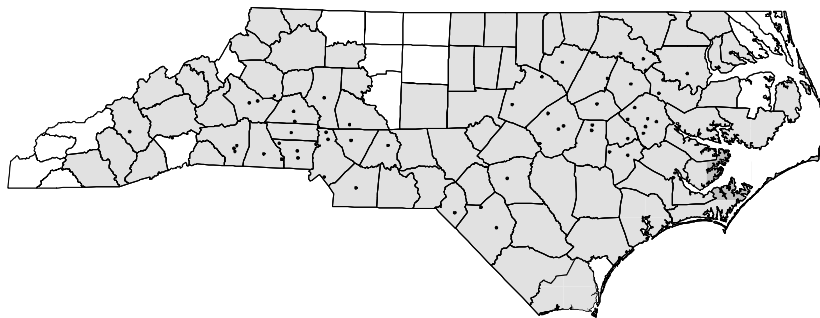
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	981,002,000	16,416,000,000	6.0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.20: Potential Service Areas - North Carolina



□ Counties (potential service areas)

Alamance	Durham	Mitchell	Warren
Alexander	Edgecombe	Montgomery	Washington
Alleghany	Franklin	Moore	Watauga
Anson	Gaston	Nash	Wayne
Ashe	Gates	Northampton	Wilkes
Beaufort	Granville	Onslow	Wilson
Bertie	Greene	Orange	Yadkin
Bladen	Halifax	Pamlico	Yancey
Brunswick	Harnett	Pender	
Buncombe	Haywood	Perquimans	
Burke	Hertford	Person	
Cabarrus	Hoke	Pitt	
Caldwell	Hyde	Polk	
Carteret	Iredell	Randolph	
Caswell	Jackson	Richmond	
Catawba	Johnston	Robeson	
Chatham	Jones	Rowan	
Chowan	Lee	Rutherford	
Cleveland	Lenoir	Sampson	
Columbus	Lincoln	Scotland	
Craven	Macon	Stanly	
Cumberland	Madison	Transylvania	
Dare	Martin	Union	
Davie	McDowell	Vance	
Duplin	Mecklenburg	Wake	

● Towns (potential service areas)

Albemarle	Hamilton	Selma
Alexander Mills	Hertford	Sharpsburg
Apex	Hobgood	Shelby
Ayden	Hookerton	Simpson
Bath	Huntersville	Smithfield
Belhaven	James City	Statesville
Benson	Kings Mountain	Tarboro
Bostic	Kinston	Trent Woods
Cherryville	La Grange	Wake Forest
Clayton	Landis	Washington
Concord	Laurinburg	Washington Park
Cornelius	Lincolnton	Waynesville
Dallas	Louisburg	Wilson
Drexel	Lumberton	Windsor
Edenton	Maiden	Winterville
Elizabeth City	Monroe	
Enfield	Morganton	
Falkland	New Bern	
Farmville	Newton	
Fayetteville	Pikeville	
Forest City	Pineville	
Fremont	Red Springs	
Gastonia	Robersonville	
Granite Falls	Rocky Mount	
Greenville	Scotland Neck	

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.20: Potential Rate Impacts and Demographic Data - North Carolina

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	21	26.3%
>0-0.5	59	73.8%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	80	100.1%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	556,427	27.3%
>\$15,000-\$20,000	205,785	10.1%
>\$20,000-\$25,000	198,689	9.8%
>\$25,000-\$30,000	179,980	8.8%
>\$30,000-\$35,000	170,539	8.4%
>\$35,000-\$40,000	140,325	6.9%
>\$40,000	583,240	28.7%
Median income	\$26,407	2,034,985 households
Statewide median income	\$26,647	2,517,098 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	83	3.6%	43.4%	53.0%
Towns	65	72.3%	27.7%	0%

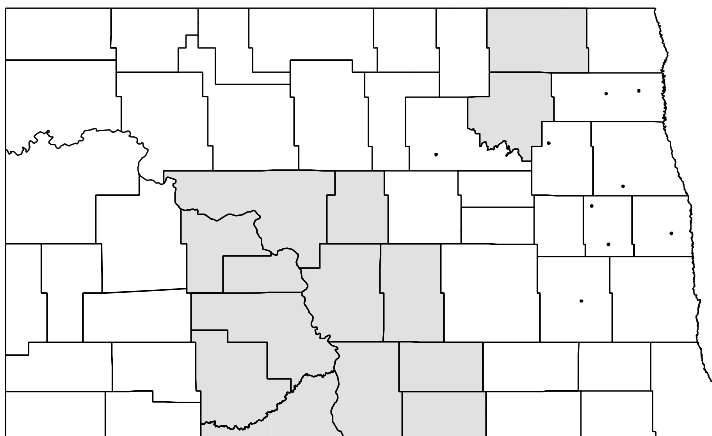
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	377,403,000	104,673,000,000	0.4%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.21: Potential Service Areas -
North Dakota**



□ **Counties
(potential service areas)**

● **Towns (potential service areas)**

- Burleigh
- Cavalier
- Emmons
- Grant
- Kidder
- Logan
- McIntosh
- McLean
- Mercer
- Morton
- Oliver
- Ramsey
- Sheridan
- Sioux

- Grafton
- Hillsboro
- Hope
- Lakota
- Maddock
- Northwood
- Park River
- Sharon
- Valley City

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.21: Potential Rate Impacts and Demographic Data - North Dakota

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	3	16.7%
>0.5-1.0	5	27.8%
>1.0-1.5	2	11.1%
>1.5-2.0	4	22.2%
>2.0	4	22.2%
Total	18	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	19,180	30.4%
>\$15,000-\$20,000	7,031	11.1%
>\$20,000-\$25,000	6,826	10.8%
>\$25,000-\$30,000	5,498	8.7%
>\$30,000-\$35,000	4,898	7.8%
>\$35,000-\$40,000	4,388	7.0%
>\$40,000	15,317	24.3%
Median income	\$23,761	63,138 households
Statewide median income	\$23,213	241,802 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	14	7.1%	71.4%	21.4%
Towns	9	22.2%	77.8%	0%

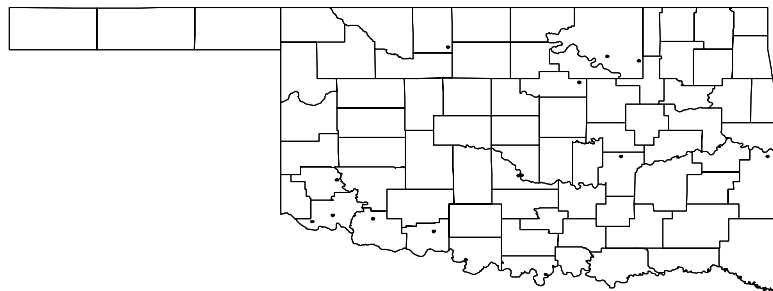
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,316,823,000	7,883,000,000	16.7%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.22: Potential Service Areas -
Oklahoma**



□ Counties (none) ● Towns (potential service areas)

- | | |
|-----------|----------|
| Comanche | Ryan |
| Copan | Skiatook |
| Duncan | Spiro |
| Eldorado | Walters |
| Goltry | Wetumka |
| Granite | Yale |
| Hominy | |
| Lexington | |
| Manitou | |
| Olustee | |
| Purcell | |

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.22: Potential Rate Impacts and Demographic Data - Oklahoma

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	3	15.8%
>0.5-1.0	0	0%
>1.0-1.5	1	5.3%
>1.5-2.0	0	0%
>2.0	15	79.0%
Total	19	100.1%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	8,012	41.6%
>\$15,000-\$20,000	1,882	9.8%
>\$20,000-\$25,000	1,659	8.6%
>\$25,000-\$30,000	1,635	8.5%
>\$30,000-\$35,000	1,235	6.4%
>\$35,000-\$40,000	1,038	5.4%
>\$40,000	3,778	19.6%
Median income	\$19,161	19,239 households
Statewide median income	\$23,577	1,207,235 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	0	0%	0%	0%
Towns	17	23.5%	76.5%	0%

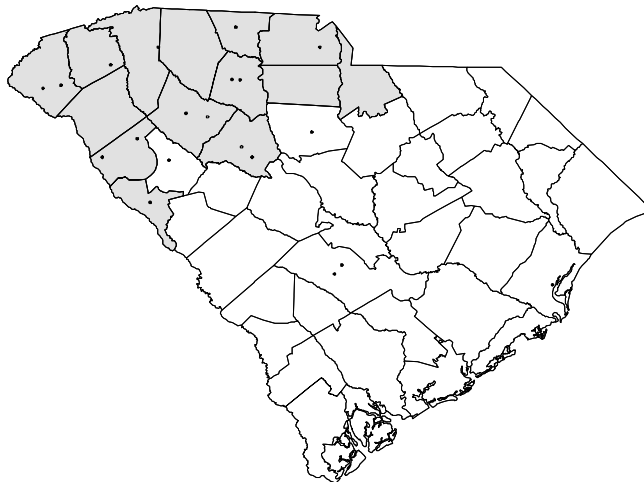
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,367,314,000	41,392,000,000	3.3%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.23: Potential Service Areas -
South Carolina**



□ **Counties
(potential service areas)**

Abbeville
Anderson
Cherokee
Chester
Greenville
Lancaster
Laurens
McCormick
Newberry
Oconee
Pickens
Spartanburg
Union
York

● **Towns (potential service areas)**

Abbeville
Bamberg
Bennettsville
Buffalo
Clinton
Cordova
Due West
Easley
Gaffney
Georgetown
Greenwood
Greer
Laurens
Lowndesville
McCormick
Newberry
Orangeburg
Prosperity
Rock Hill
Seneca
Union
Westminster
Winnsboro

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.23: Potential Rate Impacts and Demographic Data - South Carolina

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	8	30.8%
>0-0.5	18	69.2%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	26	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	134,906	27.5%
>\$15,000-\$20,000	48,670	9.9%
>\$20,000-\$25,000	45,648	9.3%
>\$25,000-\$30,000	43,252	8.8%
>\$30,000-\$35,000	41,486	8.4%
>\$35,000-\$40,000	35,209	7.2%
>\$40,000	142,343	29.0%
Median income	\$26,739	491,514 households
Statewide median income	\$26,256	1,258,783 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	14	0%	7.1%	92.9%
Towns	23	73.9%	26.1%	0%

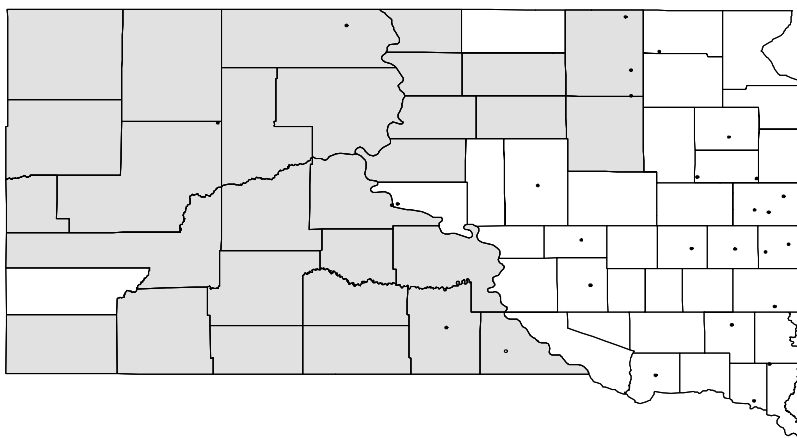
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	632,749,000	65,074,000,000	1.0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.24: Potential Service Areas -
South Dakota**



□ **Counties
(potential service areas)**

- Bennett
- Brown
- Butte
- Campbell
- Corson
- Dewey
- Edmunds
- Fall River
- Faulk
- Gregory
- Haakon
- Harding
- Jackson
- Jones
- Lawrence
- Lyman
- Meade
- Mellette
- Pennington
- Perkins
- Potter
- Shannon
- Spink
- Stanley
- Sully
- Todd
- Tripp
- Walworth
- Zeibach

● **Towns (potential service areas)**

- Arlington
- Aurora
- Badger
- Beresford
- Big Stone City
- Brookings
- Bryant
- Burke
- Colman
- Estelline
- Faith
- Flandreau
- Fort Pierre
- Grotton
- Hecla
- Howard
- Langford
- Madison
- McLaughlin
- Miller
- Parker
- Pierre
- Plankinton
- Sioux Falls
- Tyndall
- Verdon
- Vermillion
- Volga
- Watertown
- Wessington Springs
- White
- Winner

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.24: Potential Rate Impacts and Demographic Data - South Dakota

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	3	8.1%
>0.5-1.0	2	5.4%
>1.0-1.5	10	27.0%
>1.5-2.0	12	32.4%
>2.0	10	27.0%
Total	37	99.9%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	38,768	33.6%
>\$15,000-\$20,000	14,172	12.3%
>\$20,000-\$25,000	12,651	11.0%
>\$25,000-\$30,000	10,586	9.2%
>\$30,000-\$35,000	9,495	8.2%
>\$35,000-\$40,000	6,947	6.0%
>\$40,000	22,631	19.6%
Median income	\$21,678	115,250 households
Statewide median income	\$22,503	260,059 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	29	3.5%	65.5%	31.0%
Towns	32	21.9%	78.1%	0%

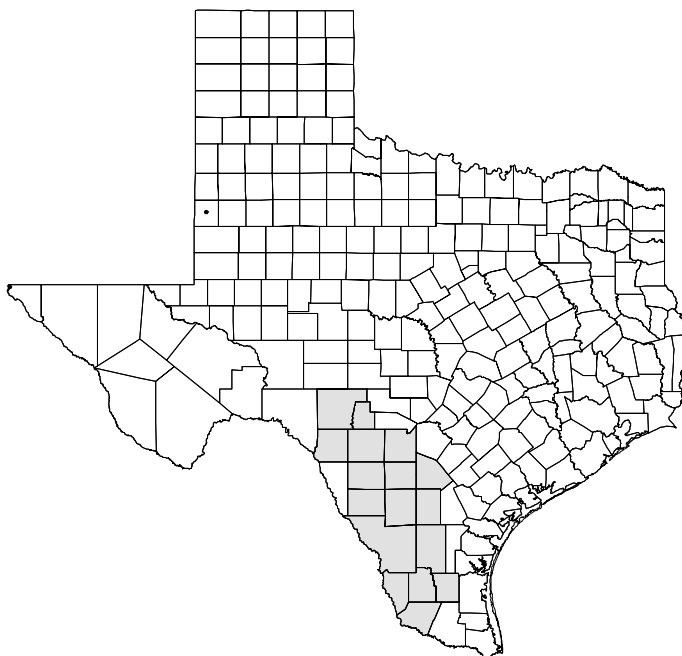
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,726,801,000	7,414,000,000	23.3%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.25: Potential Service Areas - Texas



□ **Counties
(potential service areas)**

● **Towns (potential service areas)**

- Atascosa
- Brooks
- Dimmit
- Duval
- Edwards
- Frio
- Jim Hogg
- Kinney
- La Salle
- McMullen
- Medina
- Real
- Starr
- Uvalde
- Webb
- Zapata
- Zavala

- Jasper
- Liberty
- Livingston
- Plains
- Vinton

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.25: Potential Rate Impacts and Demographic Data - Texas

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	1	14.3%
>0-0.5	2	28.6%
>0.5-1.0	3	42.9%
>1.0-1.5	0	0%
>1.5-2.0	1	14.3%
>2.0	0	0%
Total	7	101.0%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	49,140	46.2%
>\$15,000-\$20,000	11,494	10.8%
>\$20,000-\$25,000	9,796	9.2%
>\$25,000-\$30,000	7,189	6.8%
>\$30,000-\$35,000	6,595	6.2%
>\$35,000-\$40,000	4,825	4.5%
>\$40,000	17,344	16.3%
Median income	\$16,598	106,383 households
Statewide median income	\$27,016	6,079,341 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	17	11.8%	23.5%	64.7%
Towns	5	60%	40%	0%

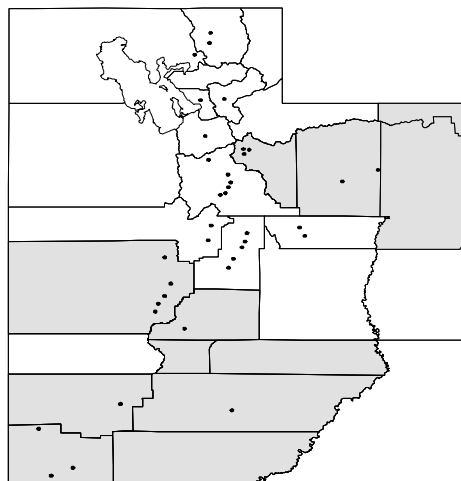
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,435,629,000	263,279,000,000	0.6%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

**Figure IV.26: Potential Service Areas -
Utah**



□ **Counties
(potential service areas)**

● **Towns (potential service areas)**

Daggett
Duchesne
Garfield
Iron
Kane
Millard
Piute
Sevier
Uintah
Wasatch
Washington
Wayne

Beaver
Blanding
Bountiful
Brigham City
Charleston
Duchesne
Enterprise
Ephraim
Escalante
Fairview
Fillmore
Heber
Helper
Holden
Hurricane
Hyrum
Kanosh
Kaysville
Lehi
Levan
Logan
Manti
Meadow
Midway
Monroe
Morgan
Mount Pleasant
Murray
Nephi
Oak City
Parowan
Payson
Price
Provo

Roosevelt
Salem
Spanish Fork
Spring City
Springville
St. George

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.26: Potential Rate Impacts and Demographic Data - Utah

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
< =0	0	0%
0-0.5	13	32.5%
0.5-1.0	5	12.5%
1.0-1.5	9	22.5%
1.5-2.0	1	2.5%
2.0	12	30%
Total	40	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	19,182	26.9%
>\$15,000-\$20,000	8,238	11.5%
>\$20,000-\$25,000	7,815	10.9%
>\$25,000-\$30,000	7,027	9.8%
>\$30,000-\$35,000	6,793	9.5%
>\$35,000-\$40,000	5,270	7.4%
>\$40,000	17,118	24.0%
Median income	\$25,312	71,443 households
Statewide median income	\$29,470	537,196 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	12	0%	33.3%	66.7%
Towns	40	47.5%	52.5%	0%

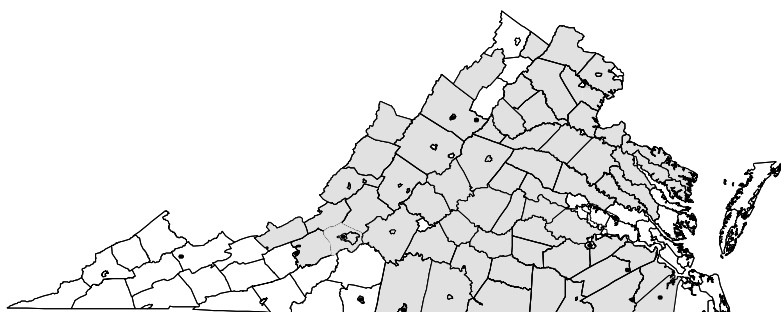
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	1,567,177,000	18,460,000,000	8.5%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.27: Potential Service Areas - Virginia



□ Counties (potential service areas)

Albemarle	Cumberland	Loudoun	Rockbridge
Alleghany	Dinwiddie	Louisa	Rockingham
Amelia	Essex	Lunenburg	Shenandoah
Amherst	Fairfax	Madison	Southampton
Appomattox	Fauquier	Mecklenburg	Spotsylvania
Augusta	Fluvanna	Montgomery	Stafford
Bath	Giles	Nelson	Surry
Bedford	Goochland	Northumberland	Sussex
Botetourt	Greene	Nottoway	Westmoreland
Brunswick	Greensville	Orange	
Buckingham	Halifax	Pittsylvania	
Campbell	Hanover	Powhatan	
Caroline	Highland	Prince Edward	
Charlotte	Isle of Wight	Prince George	
Chesterfield	King George	Prince William	
Clarke	King William	Rappahannock	
Craig	King and Queen	Richmond	
Culpeper	Lancaster	Roanoke	

• Towns (potential service areas)

- Bedford
- Blackstone
- Culpeper
- Danville
- Elkton
- Franklin
- Harrisonburg
- Martinsville
- Petersburg
- Radford
- Richlands
- Salem
- Suffolk
- Wakefield

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.27: Potential Rate Impacts and Demographic Data - Virginia

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	12	52.2%
>0-0.5	11	47.8%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	23	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	165,313	15.9%
>\$15,000-\$20,000	67,824	6.5%
>\$20,000-\$25,000	72,452	7.0%
>\$25,000-\$30,000	73,548	7.1%
>\$30,000-\$35,000	75,054	7.2%
>\$35,000-\$40,000	70,738	6.8%
>\$40,000	513,395	49.4%
Median income	\$39,552	1,038,324 households
Statewide median income	\$33,328	2,294,722 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	63	4.8%	68.3%	27.0%
Towns	14	78.6%	14.3%	7.2%

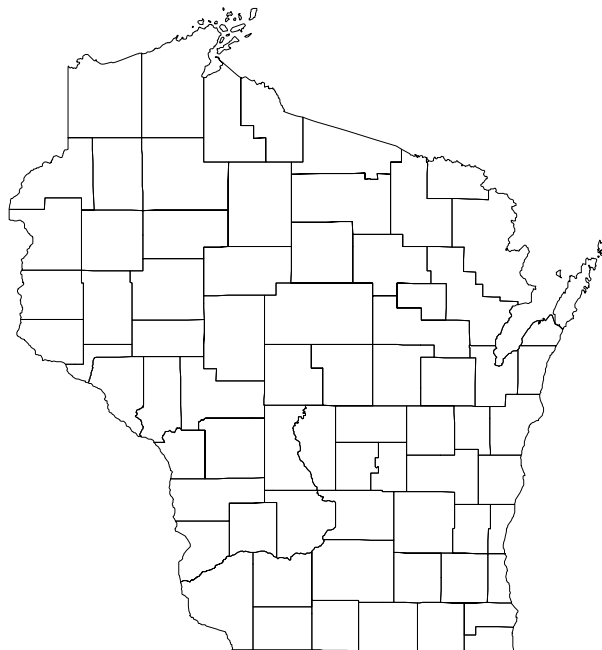
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	209,466,000	85,162,000,000	0.3%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
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**Figure IV.28: Potential Service Areas -
Wisconsin**



□ Counties (none)

• Towns (none)

Note: The one preference customer in Wisconsin does not sell power at the retail level and therefore does not serve any counties or towns.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.28: Potential Rate Impacts and Demographic Data - Wisconsin

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	1	100%
>0.5-1.0	0	0%
>1.0-1.5	0	0%
>1.5-2.0	0	0%
>2.0	0	0%
Total	1	100%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	n/a	n/a
>\$15,000-\$20,000	n/a	n/a
>\$20,000-\$25,000	n/a	n/a
>\$25,000-\$30,000	n/a	n/a
>\$30,000-\$35,000	n/a	n/a
>\$35,000-\$40,000	n/a	n/a
>\$40,000	n/a	n/a
Median income	n/a	n/a
Statewide median income	\$29,442	1,824,252 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	n/a	n/a	n/a	n/a
Towns	n/a	n/a	n/a	n/a

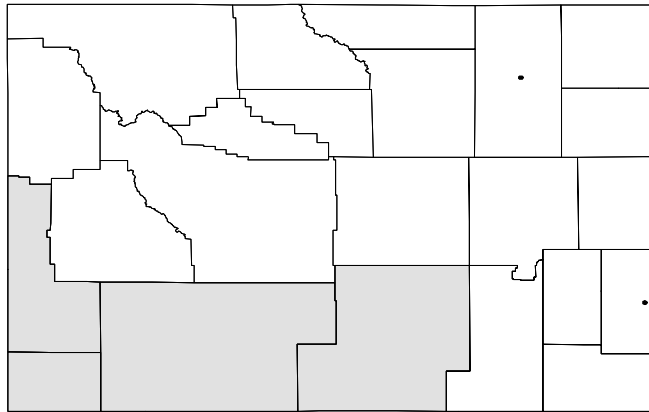
State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	2,411,000	57,967,000,000	0%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Figure IV.29: Potential Service Areas - Wyoming



□ **Counties
(potential service areas)**

Carbon
Lincoln
Sweetwater
Uinta

● **Towns (potential service areas)**

Gillette
Torrington

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties.

**Appendix IV
State-Specific Data on Potential Rate
Impacts and Service Area Demographics**

Table IV.29: Potential Rate Impacts and Demographic Data - Wyoming

Estimated rate changes to preference customers if market rates are charged		
Cents per kWh	Number of preference customers	Percent of preference customers
<=0	0	0%
>0-0.5	3	42.9%
>0.5-1.0	1	14.3%
>1.0-1.5	1	14.3%
>1.5-2.0	2	28.6%
>2.0	0	0%
Total	7	100.1%

Incomes of households in preference customers' reported service areas		
Household income	Number of households	Percent of households
<=\$15,000	7,297	20.3%
>\$15,000-\$20,000	2,708	7.6%
>\$20,000-\$25,000	3,076	8.6%
>\$25,000-\$30,000	2,922	8.1%
>\$30,000-\$35,000	3,175	8.9%
>\$35,000-\$40,000	2,779	7.6%
>\$40,000	13,920	38.8%
Median income	\$32,809	35,877 households
Statewide median income	\$27,096	169,309 households

Urban/rural classification of preference customers' reported service areas				
	Total	Percent urban	Percent rural	Percent mixed
Counties	4	25.0%	0%	75.0%
Towns	2	100%	0%	0%

State electricity consumption			
	PMA-provided (in kWh)	State total (in kWh)	Percent of state total from PMA
Consumption	169,990,000	11,199,000,000	1.5%

Note: The areas the preference customers actually served may be smaller than the areas they reported serving. This may be particularly true for counties. Consequently, preference customers actually may have served fewer households than we calculate.

Sources: Developed by GAO from data provided by the PMAs, Electrical World, and the Census Bureau.

Comments of the Department of Energy's Power Marketing Liaison Office

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



Department of Energy
Power Marketing Liaison Office
Washington, DC 20585

October 30, 1998

Susan D. Kladiva
Associate Director, Energy, Resources, and
Science Issues
United States General Accounting Office
Washington, D.C. 20548

Dear Ms. Kladiva:

This letter serves as the written comments of the Southeastern, Southwestern, and Western Area Power Administrations on the General Accounting Office draft report entitled Federal Power: Regional Effects of Changes in PMAs' Rates (GAO/RCED-99-15), dated November 1998. We appreciate the opportunity to comment on the draft report and suggest modifications and corrections before it is released in final form.

The Southeastern, Southwestern, and Western Area Power Administrations, hereafter called "the three PMAs," have had only a limited time to review the draft report. This time was insufficient for us to attempt to replicate the findings shown in the draft GAO report. Nevertheless, we have several significant concerns with the report, as discussed below.

DATA SOURCES ARE FUNDAMENTALLY FLAWED

The three PMAs' primary concern is that the draft GAO report relied on incomplete and/or inaccurate data with insufficient detail, making it impossible to have any confidence in the conclusions drawn from the data's analysis. The three PMAs recognize that obtaining timely and complete data on the electric utility industry is not easy, and that GAO was working under time constraints that may have made more thorough data collection difficult. Nevertheless, the data, which is the basis of the draft GAO report, is of such poor detail that the three PMAs ask that the report disclose the inadequacies of the data which may lead to erroneous conclusions.

Specific concerns are:

Generation and Transmission Cooperatives (G&Ts), their Members, and Municipal Joint Action Agencies Are Omitted from Maps, Rate Change, and Urban/Rural Analyses. These omissions apparently resulted from GAO's failure to use data on members of G&Ts and municipal joint action agencies needed for certain of their analyses. Such data, however, are readily available from the same sources GAO used for other information. As a result, it leads to very misleading and incorrect findings in the draft report, with customer service areas not shown correctly.

See comment 1.

See comment 2.

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Comments of the Department of Energy's
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See comment 3.
Now on p. 66.

For example, all counties in the State of Montana east of the Continental Divide receive power from the Western Area Power Administration (Western). If G&T members were included in the analysis for the State of Montana, the map on page 32a of the draft report would have shown Federal power going to 9 towns and 40 counties. Instead, it shows only one town and one county being served by Federal power. In addition, because a Western customer -- the Upper Missouri Generation and Transmission Electric Cooperative -- sells more power in North Dakota than in Montana, data on this PMA customer was omitted from the Montana findings entirely. Findings for both North Dakota and Montana are affected as a result.

Now on p. 14.

Similar exclusions of G&T data bias the maps for other states. For example, the report's map of the State of Kentucky shows only one PMA customer (the City of Henderson) in the entire state. Yet Southeastern Power Administration (Southeastern) also markets power to two G&Ts in Kentucky that serve most of the rural areas of the state between them. The map for the State of South Carolina shows no PMA power marketed to the eastern part of the state, but Southeastern sells power to a G&T and a state agency that serve all of eastern South Carolina. For Wyoming, the draft report (page 15) states that preference customers serve the southwest and south central parts of the state but no other areas. However, the Wyoming Municipal Power Agency and Tri-State Generation and Transmission Cooperative (Tri-State), which were omitted from the map, serve customers throughout Wyoming. Other examples are listed in the "Technical and/or Editorial Comments" enclosed with this letter.

See comment 4.

Improper treatment of G&Ts also affects the determination of sales to rural versus urban areas, making these findings suspect. For example, Southwestern Power Administration (Southwestern) is shown as serving 14 towns and one county in the State of Missouri with 93% of PMA power going to "urban" areas of the state. This is incorrect. Associated Electric Cooperative is Southwestern's largest customer, receiving approximately 25% of all Southwestern power; and Associated's PMA power allocation serves rural areas throughout the State of Missouri. Hence, the draft report's statement on page 14 that, "... very small portions of ... Missouri are served by PMA preference customers" is untrue.

Now on p. 4.

This major error causes certain statements in the report to be incorrect or misleading. For example, on page 5 the draft report states, "In most states, the areas that preference customers report serving cover less than half the state. In several other states -- such as Illinois, Kentucky, and Montana -- which are served by fewer than five preference customers -- the areas covered are even smaller." Yet we have shown how the exclusion of G&Ts from the maps grossly underestimates the areas shown as receiving PMA power. Similarly, the finding that "... most PMA power is consumed by customers in more highly urbanized places" does not appear to be supported by the data, given its identified inaccuracies.

See comment 5.

1995 Data Does Not Reflect Today's Market Situation. Electric utility markets have changed significantly since 1995, the year of GAO's data. In particular, wholesale rates have changed due to the ongoing changes resulting from electric industry restructuring. For example, in 1995 firm power was sold by Western from the Central Valley Project at a rate of 30 mills/kilowatt-

**Appendix V
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3

hour. The 1998 rate for this power is 19 mills/kilowatt-hour. Similarly, peaking power in certain regional markets spiked to 3-4 times normal during certain periods of the summer of 1998 -- which did not occur in 1995. One Western regional office reports that its average cost for purchased power in 1995 was 16.6 mills/kilowatt-hour; whereas through June 1997 the average price had climbed to 24.7 mills/kilowatt-hour. Western's customers would have faced similar increases. This means that the impacts of estimated rate changes due to PMA divestiture or market rates as reported in the draft GAO report no longer hold today, even if they were accurate in 1995.

See comment 6.

Power Allocations and, Hence, Demographics Will Change in the Future. Western is spreading the benefits of Federal power even more widely when contracts come up for renewal. As an example, starting on January 1, 2001, Pick-Sloan power will be reallocated to 25 Native American Tribes and 11 other new customers in the upper Midwest. Hence, the data reported for 1995 will be even further outdated.

See comment 7.

Average Rates Are Not a Good Proxy for Specific PMA Power Services. The draft GAO report uses the average rate for non-PMA power purchases as a proxy for the "market rate." However, as the three PMAs have reported in response to previous GAO reports, we believe that average rate per kilowatt-hour is not a good measure of the true market for specific power services sold by the PMAs. For example, Southeastern and Southwestern customers take their Federal power "on peak." The market rate for peaking power is clearly higher than the average rate per kilowatt-hour over the day, week, month, etc. (For example, the Salt Lake City Area/Integrated Projects experienced an average peak purchase price of 49 mills/kilowatt-hour this summer.) Hence, the three PMAs believe that customers who buy peaking power will see larger rate increases than what the GAO analysis shows.

See comment 8.

Urban/Rural Classification and Incomes of PMA Customers Biased by Utility Ownership Patterns in Upper Midwest and Southeast. In many parts of the upper Midwest and Southeast, it is typical for the towns in a county to be served by an investor-owned utility (IOU) while the remaining parts of the county are served by a rural electric cooperative (REC). If the data used to determine the urban/rural classification and/or incomes does not distinguish between those parts of a county served by the IOU and REC, the results of the analysis will be flawed. The three PMAs can not tell whether GAO accounted for this characteristic in their analysis.

See comment 9.

State/Federal Agencies Omitted. The draft GAO report stated that Federal and State agencies that are customers of the PMAs are omitted because they are not retail utilities. While this is true, it should be remembered that the sale of PMA power to these entities provides a large benefit to the state they are located in, helps encourage economic development in those areas, and helps reduce Federal spending. Moreover, omission of these entities removes customers who most directly feel the impact of changes in PMA rates.

See comment 10.

Tennessee Valley Authority (TVA) Omitted. Southeastern sold approximately 28 percent of its Federal energy to TVA for resale to 160 preference customers in TVA's service territory in 1995.

The draft GAO report omitted all sales to TVA from its findings because the report claims it is not possible to identify how TVA resells the PMA power by state because TVA mixes PMA power with power from other sources. This results in under reporting the percentage of PMA power sold in those states that fall within TVA's service territory. EIA Form 412 shows how much power was sold by TVA to each of the 160 entities. Moreover, it is not clear how TVA's blending of power is any different than how other customers blend power from different sources. Other customers also sell power in more than one state, and were included in the report.

See comment 11.

Wisconsin Erroneously Included in Analysis. Although Western made non-firm sales to Wisconsin Public Power in 1995, this state should not be included in the GAO report, which the three PMAs believe should focus on firm power sales.

MORE BALANCE IS NEEDED IN THE DRAFT REPORT

See comment 12.

In Places, the Draft Report Goes Beyond Data Reporting Into Evaluation. The three PMAs understood the draft report was to stick to a neutral description of the findings developed from the data. However, they found certain statements in the report that appear to go beyond a mere recitation of the data's findings and into policy options and evaluation. For example, when rate increases were found to be relatively large in certain cases, the draft report noted (on page 11) that the PMAs' power was currently sold at relatively low rates and that rate caps could be used to mitigate rate increases. To the three PMAs, this additional evaluation seems to expand the scope of the report to include policy options and evaluation. The three PMAs ask that these instances, particularly the last sentence on page 11, be removed.

Now on pp. 10 and 11.

Now on pp. 10 and 11.

See comment 13.

Moreover, the draft report's use of the terms "relatively small", "moderate", and "relatively large" adds a degree of subjectivity to what could be a neutral presentation of the data.

One-sided Presentations Need Balance. On page 1, the draft report notes that there is some support for divestiture and/or market rates for the three PMAs. The original draft did not give any space to the opposite point of view -- that the PMAs should continue to remain Federally owned and sell power at cost -- which is a view just as strongly held by others. A subsequent fax from GAO added a sentence to this paragraph to address this concern, which we appreciate.

See comment 14.

Now on p. 4.

On page 6, California is cited as a state where Western sells power to high-income areas such as Orange County and Anaheim, yet the median income of preference customers in California is within \$500 of California's median income. The percentage of high-income households is cited, but not the fact that other Western customers sell power to some of the poorest individuals in the United States, such as Native Americans living on the Pine Ridge Indian Reservation in South Dakota.

See comment 15.

The draft report states that rate increases were not reported as percentages because the results would frequently appear to be "seemingly large." This decision is subjective, as well,

**Appendix V
Comments of the Department of Energy's
Power Marketing Liaison Office**

5

particularly when one considers that GAO compares PMA rates to market rates in percentages in this and previous reports.

See comment 16.

The three PMAs believe the report's reference to its methodology being "conservative" is debatable, especially since estimates of future power prices tend to be made on a national basis that may, or may not, reflect individual regional markets. For example, the relatively low prices in the upper Midwest suggest that electricity prices may rise there as regional power is bid up in other markets.

See comment 17.

Urban/Rural Terminology May Be Misleading. The draft report breaks out each state's preference customers' service areas into "urban", "rural", or "mixed" using Census data. However, the term "urban" is extremely misleading without definition, because the Census Bureau defines urban to include all locations of 2,500 or more persons. Because most people would consider a town of 2,500 to be rural, this definition needs to be reconsidered or, at least, stated explicitly.

Thank you again for the opportunity to provide these comments. Several technical and/or editorial comments are provided on an enclosure to this letter.

Sincerely,



Timothy J. Meeks
Assistant Administrator
for Power Marketing Liaison

Enclosure

The following are GAO's comments on the Power Marketing Liaison Office's letter dated October 30, 1998.

GAO's Comments

1. DOE comments that our data sources are flawed because we relied on incomplete and/or inaccurate data and that it is impossible to have confidence in conclusions drawn from the data's analysis. To address each of our objectives, our analyses used data reported by the PMAs and their preference customers—data that we believe to be the best available. DOE recognizes that obtaining complete data on the electric utility industry is not easy. We believe that we used the data appropriately to satisfy the objectives of our review and that our methodology is sound. However, we agree the data we used have some limitations and we have noted the limitations in our report. Many of the concerns that DOE expresses do not deal with the data we used but with the definition of a preference customer of a PMA. For our analysis, we included only the preference customers who purchased power directly from the PMAs—as listed in the PMAs' 1995 annual reports. We did not include utilities that indirectly purchase PMA power because the 1995 annual reports of two of the three PMAs do not include them in their customer lists. Southwestern's 1995 annual report states that two of its customers also serve a number of municipal utilities and includes these municipal utilities in the total number of customers. The annual reports of Southeastern and Western, however, list only the customers that buy power directly from those PMAs and do not include the municipal utilities that purchase power from generation and transmission cooperatives or municipal joint action agencies. Because Southeastern and Western together represent over 90 percent of the total preference customers of the three PMAs included in our analysis, we used their approach. However, to address DOE's concerns, we added statements to the report in several places explaining that our analysis did not include utilities that indirectly purchase PMA power.

For our analysis of urban/rural populations, we used the counties and towns that the preference customers included in our rate analysis reported to Electrical World: Directory of Electric Power Producers. In connection with identifying the areas that preference customers report serving, we acknowledge that the data in Electrical World may not match the actual service territories because utilities report to Electrical World the counties and/or towns they serve without specifying the exact service boundaries within these counties and towns. However, we used these data because they (1) were reported by the preference customers and (2) were the best available. We believe this approach adequately addresses our objective of

identifying the areas that the three PMAS' preference customers report serving and does not affect our primary objective, to estimate potential rate impacts by state.

2. DOE states that we omitted from our analysis generation and transmission cooperatives and municipal joint action agencies that purchase power from the PMAS. We did not exclude them. We estimated a potential rate change for every generation and transmission cooperative and municipal joint action agency that purchased wholesale power from Southeastern, Southwestern, and Western in 1995. We also attempted to include them in our maps and urban/rural analysis. However, in many cases, the generation and transmission cooperatives and municipal joint action agencies sell only wholesale power to other utilities and do not provide retail service and, thus, do not report serving any counties or towns. As a result, we were unable to reflect such service territories on our maps. Similarly, since our urban/rural analysis relied on the Census Bureau's data of populations in the counties and towns that the preference customers report serving, we did not include in our analysis the service territories of the utilities that purchase power from the generation and transmission cooperatives and municipal joint action agencies.

As we noted in comment 1, we did not include the generation and transmission cooperatives or municipal joint action agencies in our analysis because the PMAS' annual reports, with very few exceptions, do not include them either.¹³ However, it is important to note that if our rate analysis had included the municipal utilities that buy from preference customer generation and transmission cooperatives and municipal joint action agencies, we believe that the rate increases for many of these utilities would have been very small: If a municipal utility purchased all its power from a direct preference customer of the PMA, the municipal utility's rate increase would equal the increase we estimated for the direct preference customer. If the utility purchased a portion of its power from sources other than the preference customer, its rate increase would be lower. For example, according to Southwestern's fiscal year 1995 annual report, Kansas Municipal Energy Agency (Kansas MEA) purchased power from Southwestern and transmitted it to 24 municipal utilities. We estimate that if the Kansas MEA paid market rates for the power it purchased from the PMA, its average rate would rise by 0.22 cent per kWh, a relatively small increase. If a municipal utility purchased all its power from the Kansas MEA, its rate would also rise by 0.22 cents per kWh. If a

¹³Southwestern's 1995 annual report includes 2 (of more than 60 customers reported), and Southeastern's and Western's, none.

municipal utility purchased half of its power from the Kansas MEA, its rate increase would be 0.11 cents per kWh. Municipal utilities' increases would often be small because the direct preference customers who sell them power often purchase a small percentage of their total power from the PMA.

3. DOE states that our maps do not show the service areas of the customers of the generation and transmission cooperatives and municipal joint action agencies. We agree. However, to be consistent with our rate analysis, we included only the counties and towns that the preference customers (those that purchase power directly from the PMAs) report. If we had included the service territories of the utilities that purchase power from preference customers as DOE suggests, our state maps would have had more shadings for counties and/or dots for towns. However, it is important to note that, in many cases, the additional counties and towns in our maps would receive relatively small portions of their power from the PMA. For example, Southwestern's 1995 annual report states that the PMA sells power to the Louisiana Energy and Power Authority, which, in turn, serves nine municipal utilities. We estimate that Louisiana Electric and Power, purchased 8.15 percent of its power from the PMA in 1995. This means that the nine municipal utilities received, at most, 8.15 percent of their power from Southwestern. If the municipal utilities purchased portions of their power from other sources, the counties and towns they serve would consume a smaller portion of PMA power. Our analysis shows that many of the preference customers that sell power to other utilities purchase less than 10 percent of their power from the PMA. Moreover, regardless of how many utilities buy PMA power indirectly through preference customers, the portion of a state's electricity consumption that comes from the PMA remains the same—for example, 0.7 percent in Louisiana.

4. In its comments, DOE states that our analysis shows that Southwestern is serving 14 towns and one county in the State of Missouri, with 93 percent of PMA power going to urban areas of the state. We believe that DOE misinterpreted our analysis. Our analysis does not show that 93 percent of Southwestern's power in Missouri goes to urban areas. Our analysis does show that of the 14 towns that preference customers who buy directly from the PMA report serving, 13, or 93 percent, have populations that are at least 80 percent urban, as defined by the Census Bureau. DOE states that Associated Electric Cooperative has a "PMA power allocation [that] serves rural areas throughout the State of Missouri." However, this power is distributed to these areas by the utilities that purchase power from Associated Electric, not Associated Electric itself. Associated Electric did

not report serving any counties or towns to Electrical World, the source of our data. Moreover, Southwestern, in its 1995 annual report, does not include the utilities that purchase power from the Associated Electric Cooperative in its total count of customers. Therefore, neither did we.

5. DOE states that using 1995 data compromises our rate analysis because (1) PMAS' rates have recently declined and (2) prices for power purchased during periods of peak use have recently increased. These two factors would increase potential rate increases, but only if market rates remain the same. However, according to officials of the Edison Electric Institute, market rates for wholesale power have also declined since 1995. As the market continues to evolve, many industry experts believe these rates will fall farther. If market rates fall more than the PMAS' rates, our estimates of rate increases will prove to be overstated. We have seen no evidence that the PMAS' rates have fallen more than rates in the wholesale market.

6. DOE maintains that power from the Pick-Sloan project will be reallocated to 25 Native American tribes and 11 other new customers in the Upper Midwest in 2001 and that, as a result, our analysis will be "even further outdated." However, we were asked to examine the three PMAS' sales, based on the most recent data—1995, not their sales in the future. In addition, although Western may be reallocating its power, this does not necessarily mean that the new allocation would appreciably change the profile of the service areas (in terms of the extent to which they are urban or rural and in terms of their household income). This profile would change only if the areas losing Western's power are more urban or rural or different in income than the areas that would gain access to Western's power. Moreover, although Pick-Sloan sold more power than other of Western's projects, it nonetheless represented about only about one-third of Western's total sales in 1995. Consequently, the reallocation would have to be very large to significantly change the overall profile of Western's preference customers' service territories.

7. DOE states that average rates are not a good proxy for specific power services from PMAS. We acknowledge that average revenue per kWh (total revenues/total electricity sales) is an imperfect indicator of electricity rates because it combines the costs of several types of services, such as capacity, peak service, and off-peak service. However, as we have stated in several past reports, we believe it is a strong, broad indicator of the relative power production costs of the PMAS compared to those of investor-owned utilities and publicly owned generators. We agree that preference customers would likely pay higher than the average rate per

kWh in replacing the portion of PMA power that is used during periods of peak demand.

8. DOE states that in many parts of the Upper Midwest and Southeast, it is typical for towns in a county to be served by an investor-owned utility while the remaining parts of the county are served by a rural electric cooperative. Thus, DOE believes that our analysis is flawed if the data do not account for this difference. We agree this may be an issue. However, as stated previously, we relied on the set of counties and towns that the preference customers reported serving to Electrical World. The preference customers did not specify which portions of a county they served when they reported serving a county. Also, in Midwestern states, such as Iowa, Missouri, and Nebraska, preference customers primarily reported their service areas as towns rather than counties. Thus, the problem concerning counties that DOE identified would not arise there. In addition, even if, within a particular county, an investor-owned utility serves a town, it may not follow that the area outside the town has lower household incomes.

9. DOE states that we omitted state/federal agencies. We excluded state and federal agencies because, with a few exceptions, they are not utilities and thus are not in EIA's Form 861 or "sales for resale" databases. As a result, we could not perform calculations on potential rate impacts with the approach we used for preference customers who are utilities. We excluded state and federal agencies from other analyses because (1) they do not provide retail service to residential end-users and (2) we wanted to keep the group of customers consistent across the analyses. In addition, DOE provides no economic analysis that the PMAs' sales to these agencies provide a "large benefit to the state they are located in." In most cases, even if the sales to these agencies were included in the analysis, the PMAs' portion of a state's total electricity consumption would be relatively small. We agree that some indirect economic impact may be attributable to the lower price of the power—relative to other retail prices—consumed by the preference customers not included in our analysis, but its measurement is uncertain.

10. DOE states that TVA is omitted. We agree that if we had been able to include the 160 distributors that received TVA power in 1995 in our analysis, the percentages of PMA power provided to the seven states served by TVA would have increased. However, because of data limitations, such as EIA's designating TVA as an Alabama utility in its Form 861 database and TVA's not reporting a service territory in Electrical World, we could not apply the methodology used in our analysis and were unable to develop

and implement a methodology to appropriately incorporate TVA. However, our draft explained that Southeastern sells power to TVA, provided information on the amount of power that Southeastern sold to TVA in 1995 and 1996, and provided a map of TVA's service territory. In addition, we have added a more detailed explanation of our methodology concerning TVA in appendix III.

11. DOE believes that Wisconsin should not be included in our analysis because Wisconsin Public Power received only "nonfirm" (interruptible during peak periods) power from Western. However, Western listed Wisconsin Public Power as one of its customers for 1995, and we believe that it was appropriate to include this customer in our rate analysis because we did not differentiate between firm (always available) and nonfirm power sales. Also, because Wisconsin Public Power sells only wholesale power and did not report serving any counties or towns in Electrical World, we could not include it in our other analyses.

12. DOE states that our report does not maintain a neutral description of the findings because the report goes beyond data reporting and does not present all opposing points of view. It cites as an example our observation that in cases where potential rate increase may be relatively large, PMAS currently sell power at relatively low rates and rate caps could be used to mitigate these increases. We believe that our report is balanced and that, throughout our report, we present a neutral description of our objectives and findings. We mention that PMAS' rates are relatively low to provide context for the relatively large rate increases. It is easier to understand the significance of a rate increase that exceeds 1.5 cents per kWh if the reader understands the base rate upon which the increase is calculated. On the issue of rate caps, we did not intend for our discussion to be a recommendation. We included it because, as in previous reports, this issue has been an important consideration in other deregulatory initiatives.

13. DOE states that our classifications of rates are subjective. We agree. However, we devised the parameters of these classifications on the basis of our examination of all the rate changes in our analysis. Moreover, we explicitly describe the values attached to each of these classifications in our report. We used these categories to simplify the discussion, not as a definitive statement.

14. With regard to selling power to high-income areas, DOE misinterprets our analysis. In the examples cited, we refer to the percentage of households with higher incomes, not the median income. More generally, a

county may have a median that is relatively close to the statewide median, yet still have a large portion of households with higher incomes. We agree with DOE's comment regarding Native Americans' receiving PMA power and have added an example for balance.

15. With regard to our not reporting rate increases as percentages, we made a subjective judgment not to do so. As we stated in appendix III, we believe that reporting rate changes in cents per kWh more accurately portrays the true value of the changes. In addition, the base rates preference customers paid in 1995 differ greatly from customer to customer. As a result, if we expressed the rate changes as percentages, the same increase measured in cents per kWh would be reported as different increases for two customers with different base rates.

16. In response to DOE's assertion that our methodology is not conservative, we disagree. We believe our methodology is conservative because we assume no changes in wholesale market prices. If wholesale prices decline in the future, as many industry experts predict, our estimates of rate increases will prove to be overstated. Because we could not incorporate forecasts of wholesale prices, we believe our approach is conservative.

17. DOE states that our urban/rural terminology may be misleading. As suggested, we have included the Census Bureau's definition of urban in the body of our report and appendix III.

Major Contributors to This Report

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Appendix VI
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Related GAO Products

Federal Power: Options for Selected Power Marketing Administrations' Role in a Changing Electricity Industry ([GAO/RCED-98-43](#), Mar. 6, 1998).

Federal Electricity Activities: The Federal Government's Net Cost and Potential for Future Losses ([GAO/AIMD-97-110](#) and 110A, Sept. 19, 1997).

Federal Power: Issues Related to the Divestiture of Federal Hydropower Resources ([GAO/RCED-97-48](#), Mar. 31, 1997).

Power Marketing Administrations: Cost Recovery, Financing, and Comparison to Nonfederal Utilities ([GAO/AIMD-96-145](#), Sept. 19, 1996).

Federal Electric Power: Operating and Financial Status of DOE's Power Marketing Administrations ([GAO/RCED/AIMD-96-9FS](#), Oct. 13, 1995).

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