U.S. Electric Utility Demand-Side Management 1993

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Preface

The *U.S. Electric Utility Demand-Side Management* report is prepared by the Coal and Electric Data and Renewables Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA); U.S. Department of Energy. The report presents comprehensive information on electric power industry demand-side management (DSM) activities in the United States at the national, regional, and utility levels. The objective of the publication is to provide industry decision makers, government policy makers, analysts, and the general public with historical data that may be used in understanding demand-side management as it relates to the U.S. electric power industry. The first chapter, "Profile: U.S. Electric Utility Demand-Side Management," presents a general discussion of DSM, its history, current issues, and a review of key statistics for the year. Subsequent chapters present discussions and more detailed data on energy savings, peakload reductions and costs attributable to DSM. Included in this year's publication are two feature articles, "The Status of U.S. Electric Utility Demand-Side Management," and "Evaluation and Verification of Demand-Side Management Programs."

Target Audience

In the private sector, the majority of users are researchers, analysts, and ultimately the policymaking and decisionmaking members of electric utility companies. Financial and investment institutions, economic development organizations interested in new power plant construction, special interest groups, lobbyists, electric power associations, and the news media are all prospective users of the *U.S. Electric Utility Demand-Side Management* report.

In the public sector, users include analysts, researchers, statisticians, and other professionals engaged in regulatory, policy, and program areas for Federal, State, and local governments. The Congress, other legislative bodies, State utility commissions, and other government groups share an interest in general trends and specific DSM data. This report can be used in analytic studies to evaluate new or existing legislation.

Source of Data

Data published in the *U.S. Electric Utility Demand-Side Management* report are compiled from the Form EIA-861, "Annual Electric Utility Report." The Form EIA-861 is a census of electric utilities in the United States, its territories, and Puerto Rico. It is used to collect annual data on the production, sales, revenue from sales, and trade of electricity, as well as demand-side management data from approximately 3,250 electric utilities in the United States. Schedule V, "Demand-Side Management Information," of the Form EIA-861 collects demand-side management data.

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The Status of U.S. Electric Utility Demand-Side Management

Background

Demand-side management (DSM) programs sponsored by electric utilities have been increasingly offered to utility customers in recent years. DSM includes utility efforts to reduce the amount and affect the timing of customer electricity use. Programs that reduce the amount of electricity use (measured in kilowatthours) focus on improving the technical and operational efficiency of customers' use of electricity. Programs that affect the timing of electricity use (measured in kilowatts) focus on load management programs, such as when the utility directly or indirectly (through contracts) controls equipment at the customer site and electricity-pricing options that vary the price of electricity with time of use.

The Energy Information Administration (EIA) collects DSM data in an annual census of electric utilities, Form EIA-861, "Annual Electric Utility Report." The data collected by EIA for the 1993 reporting year represent the most complete and current information available on the status of DSM in the United States. The DSM energy savings, peakload reduction, and expenditures from 1992 to 1993 and projections for 1994 and 1998 are discussed in this article.¹ This discussion proceeds from the aggregate (U.S. totals) to the disaggregate (NERC region, State, and utility level).

Increasing competition in the electric power industry may affect the type and level of DSM programs and expenditures in the future. Utilities concerned about the adverse effects of DSM programs on electricity prices are reducing the scope of their programs. DSM trade media reports on DSM budget reductions at some utilities are stimulating discussion on the role of DSM in a more competitive environment.

DSM at the National Level

Utility expenditures on DSM programs increased 17 percent from \$2.3 billion in 1992 to \$2.7 billion in 1993 (Table FE1). Projected expenditures for 1994 were an additional 9 percent increase.² Energy savings also increased to 45,294 million kWh in 1993, 27 percent greater than the 1992 level of 35,563 million kWh; potential peakload reductions increased to 39,508 MW, 22 percent higher than the 1992 level of 32,442 MW.³

In 1993, utilities spent 1.4 percent of their retail revenues for DSM programs. Energy savings resulting from these DSM programs reduced sales of electricity by 1.6 percent, and potential reduction of peak load was 6.8 percent (Figure FE1). The projections for 1994 and 1998 also predict increased spending, energy savings, and potential peakload reduction, although the rates of increase are declining for expenditures and peakload reductions, but not for energy savings (Table FE1).

EIA collects DSM data using six program categories: energy efficiency, direct load control, interruptible load control, other load management,⁴ other DSM programs, and load building.⁵ Energy-efficiency programs dominated DSM expenditures for all 3 years (Figure FE2), at 66 percent in 1992, 70 percent in 1993, and projected to be 71 percent in 1994. Direct load control and interruptible load programs, which focus on peakload reduction rather than energy savings, were second and third, respectively, in utility DSM expenditures. The relative emphasis on energy savings versus peakload reduction has shifted slightly toward energy saving from 1992 to 1994.

¹ Eric Hirst's support and contribution to the Electric Operating and Financial Data Branch in preparing this article are greatly appreciated.

² Normalized for inflation, "real" expenditures on DSM increased by 14 percent from 1992 to 1993 and are projected to increase by 6 percent from 1993 to 1994.

³ The energy savings and peakload reduction data presented in this article are *annual*. Annual numbers are the total effects in energy use and peak load for a particular year caused by all participants in the DSM programs that are in effect during a given year.

⁴ Other load management refers to programs other than direct load control and interruptible load that limit or shift peak load from on-peak to off-peak time periods. It includes technologies that primarily shift all or part of a load from one time of day to another and secondarily may have an impact on energy consumption. Examples include space heating and water heating storage systems, cool storage systems, and load limiting devices in energy management systems. This category also includes programs that aggressively promote time-of-use rates and other innovative rates such as real-time pricing. These rates are intended to reduce consumer bills and shift hours of operation of equipment from on-peak to off-peak periods through the application of time-differentiated rates.

⁵ Although DSM includes programs that increase energy use (i.e., load building) as well as those that reduce consumption, only the latter are discussed in this article.

Table FE1. U.S. Electric Utility DSM Program Annual Effects and Expenditures and Percentage of Retail Electric Revenue and Sales and Summer Peak Load, 1989 Through 1993, 1994 and 1998

Year ¹	Program Expenditures		Energy Savings		Potential Peakload Reduction	
	Million \$	Percent ²	GWh/year	Percent ²	MW	Percent ²
1989	873	0.5	14,672	0.5	NA	NA
1990	1,178	0.7	20,458	0.7	NA	NA
1991	1,804	0.9	24,848	0.9	NA	NA
1992	2,348	1.3	35,563	1.3	32,442	5.9
1993	2,744	1.4	45,294	1.6	39,508	6.8
1994	3,003	1.5	52,655	1.9	42,220	7.3
1998	3,562	1.6	88,978	3.0	55,163	8.9

¹ The data for 1989 through 1993 are historical results, those for 1994 and 1998 are projections made in the 1993 reporting year.

² These percentages reflect, respectively, total U.S. percentage of retail electric revenue spent, retail electricity sales, and summer peak load for each year.

NA = Not available.

Source: Form EIA-861, "Annual Electric Utility Report."

Figure FE1. U.S. Electric Utility DSM Program Expenditures and Effects as a Percentage of Retail Electric Sales and Revenue and Summer Peak Load, 1989 Through 1993, 1994 and 1998

Note: Peakload reduction data not available for 1989-1991. Data for 1994 and 1998 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure FE2. U.S. Electric Utility DSM Expenditures by Program Type, 1992, 1993, and 1994

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

DSM at the Regional Level

The level of DSM activity varies among the North American Electric Reliability Council (NERC) regions. DSM expenditures increased in eight of the regions from 1992 to 1993 and electric utilities projected increased expenditures to continue in seven regions from 1993 to 1994 in both absolute terms and relative to retail revenues (Table FE2 and Figure FE3). In the Mid-America Interconnected Network (MAIN) expenditures decreased from 1992 to 1993 and are projected to decrease relative to revenues in the MAIN, Southwest Power Pool (SPP), and Northeast Power Coordinating Council (NPCC) regions from 1993 to 1994 (Figure FE3). The NPCC and Western Systems Coordinating Council (WSCC) regions accounted for the highest percentage of revenues spent on DSM in 1992 and in 1993.

Energy savings and potential peakload reductions increased in all regions from 1992 to 1993 and in all but one (potential peakload reductions in the Electric Reliability Council of Texas (ERCOT)) were predicted to increase from 1993 to 1994 (Table FE2 and

Figures FE4 and FE5). The NPCC and WSCC regions dominated energy savings as a percent of total retail sales for 1992 and 1993, with both regions predicting growth in energy savings of more than 3.5 percent in 1994. At the other end of the spectrum, the Southwest Power Pool (SPP) and East Central Area Reliability Coordination Agreement (ECAR) regions had energy savings of less than 0.5 percent of sales in 1993. Compared with their 1992 levels of energy savings, the ECAR, ERCOT, MAIN, and Mid-Continent Area Power Pool (MAPP) regions showed the greatest growth in energy savings (Table FE2).

The MAPP and Southeastern Electric Reliability Council (SERC) regions dominated potential peakload reductions as a percentage of peak load for all three years, with both regions showing peakload reductions of more than 10 percent. Potential peakload reductions were smallest in the ECAR and MAIN regions, with both reporting potential peakload reductions of approximately 5 percent (Figure FE5). Relative to their 1992 levels of peakload reductions, the ECAR and SPP regions showed the greatest expected growth through 1994 (Table FE2).

Figure FE3. U.S. Electric Utility DSM Program Expenditures as a Percentage of Retail Revenue by NERC Region, 1992, 1993 and 1994

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure FE4. U.S. Electric Utility Energy Savings as a Percentage of Retail Sales by NERC Region, 1992, 1993, and 1994

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure FE5. U.S. Electric Utility Potential Peakload Reduction as a Percentage of Summer Peak Load by NERC Region, 1992, 1993, and 1994

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table FE2. U.S. Electric Utility Changes in DSM Expenditures and Effects by NERC Region, 1992 to 1993 and 1993 to 1994

Region	Percent Change in DSM Expenditures		Percent Change in Energy Savings		Percent Change in Potential Peakload Reduction	
	1992-1993	1993-1994	1992-1993	1993-1994	1992-1993	1993-1994
ECAR	43	5	58	40	25	14
ERCOT	12	5	126	9	48	-12
MAIN	-4	-2	75	20	13	23
MAAC	47	15	21	91	16	17
MAPP	21	25	68	31	17	13
NPCC	4	0	34	23	13	23
SERC	26	6	7	4	29	1
SPP	8	-5	34	25	48	7
WSCC	11	20	24	13	0	12
National Average	17	9	27	16	22	7

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

DSM at the State Level

From 1992 to 1993, DSM expenditures increased in absolute terms by more than 10 percent in 27 States and the District of Columbia, and decreased by 10 percent or more in six States (Figure FE6), including three that spent more than 1 percent of retail revenue on DSM in 1992: California, Maine, and Nevada. DSM expenditures remained approximately constant (i.e., $\pm$ 10 percent) in the remaining 17 States.

In 1992, utilities in 11 States and the District of Columbia spent more than 2 percent of retail revenues on DSM. In 1993, utility expenditures on DSM as a share of retail revenue declined in four of these States: California, Connecticut, New York, and Wisconsin. DSM expenditures increased in the other seven States: Florida, Massachusetts, Montana, Oregon, Rhode Island, Vermont, Washington, and in the District of Columbia. For 1994, DSM expenditures as a share of retail revenues are predicted to increase again in these States and the District of Columbia, and also in California.

For 1994, utilities in five States predicted reductions in their DSM expenditures of 10 percent or more. However, none of the States where utilities reduced DSM expenditures in 1993 planned reductions again in 1994 (Figure FE6). New York, a leader in DSM, was among the five States that planned to reduce their DSM expenditures by more than 10 percent in 1994. Nineteen States showed essentially no change in DSM expenditures for 1994, while the utilities in 26 States and the District of Columbia planned to increase their DSM expenditures by more than 10 percent in 1994.

Over the entire period from 1992 to 1994, utilities in five States planned to reduce their DSM expenditures by 10 percent or more (ranging from a 32-percent reduction in Michigan to a 15-percent reduction in Missouri, with Delaware, New York, and Oklahoma in between). However, utilities in 10 States (Alaska, Colorado, Georgia, Idaho, Indiana, Kansas, Maryland, New Hampshire, Vermont, and West Virginia) and the District of Columbia planned to more than double their DSM expenditures during this time.⁶

⁶ For several reasons, readers should be cautious about the State results presented here. First, for all utilities that operate in more than one State, it was assumed that the DSM costs were allocated the same way that retail sales were. However, due to differences in regulatory policies of States, this allocation across States may not be correct. Because of these complexities, energy savings and peakload reductions data are not presented at the State level.

Figure FE6. U.S. Electric Utility Changes in DSM Program Expenditures by State, 1992 - 1993 and 1993 - 1994

DSM Expenditures Up More Than 10% From 1992 to 1993 in 28 States

DSM Expenditures Up More Than 10% From 1993 to 1994 in 27 States

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

DSM at the Utility Level: 25 Utilities with the Greatest DSM Expenditures

In 1993, 977 utilities were reported on the Form EIA-861 to EIA as having DSM programs. This discussion will focus on the 25 utilities that had the greatest expenditures on DSM in 1993. These 25 utilities accounted for approximately two-thirds of all utility DSM expenditures in the United States. DSM expenditures for these utilities ranged from \$34 million for Northern States Power to \$165 million for the Bonneville Power Administration. Four of these utilities are in California; the remaining 21 are geographically dispersed, providing DSM services in more than 20 States.

Individual utility DSM data were even more varied than regional or State level data for DSM expenditures (Table FE3). No pattern for the changes in expenditures was observed from 1992 to 1993 or from 1993 to 1994. Of these 25 utilities, 5 decreased their DSM expenditures, and 20 increased expenditures in 1993. The greatest increases were for Bonneville Power Administration (+\$47 million), Georgia Power (+\$46 million), Florida Power & Light (+\$44 million), and Southern California Edison (+\$41 million); the greatest decreases occurred at Pacific Gas & Electric (-\$45 million) and Niagara Mohawk (-\$24 million).

For 1994, 9 of these utilities planned to reduce their DSM expenditures and 16 planned to increase spending on DSM. Only Niagara Mohawk and Connecticut Light & Power reported decreased expenditures for both 1993 and 1994. Increases in expenditures for both 1993 and 1994 were reported by 13 utilities. From 1992 to 1994, 17 of the utilities increased their DSM expenditures, while 8 decreased expenditures. This resulted in a net increase in DSM expenditures for these 25 utilities from 1992 to 1993 and again from 1993 to 1994, which is consistent with the national totals.

Annual energy savings data for these 25 utilities typically showed increases from 1992 to 1993, and utilities predicted increases from 1993 to 1994. Only one utility reported decreased energy savings for 1993. Of the 24 utilities reporting growth in energy savings, the most substantial increase was reported by Bonneville Power Administration (1,756 million kWh) for 1994.

Potential peakload reductions for these 25 utilities also increased in 1993. Increases of 500 MW or more for potential peakload reductions were reported by Southern California Edison and the Tennessee Valley Authority in the period from 1992 to 1994. Only Boston Edison reported a slight decrease in 1993 and again for 1994.

Table FE3. Annual Changes in DSM Expenditures for the 25 U.S. Electric Utilities with the Greatest DSM Expenditures, 1992 - 1993 and 1993 - 1994 (Percent)

Utility Name	Percent Change 1992-1993	Percent Change 1993-1994
Baltimore Gas and Electric	120	10
Bonneville Power Administration	40	31
Boston Edison	2	3
Carolina Power and Light	-31	5
Connecticut Light and Power	-9	-3
Consolidated Edison	8	0
Consumers Power	60	-72
Duke Power	15	-7
Florida Power Corporation	34	2
Florida Power and Light	45	11
Georgia Power	676	13
Massachusetts Electric	4	40
N.Y. State Electric and Gas	28	-65
Niagara Mohawk Power	-36	-2
Northern States Power	12	46
Pacific Gas and Electric	-25	27
Pacificorp	83	1
Potomac Electric Power Co.	81	32
PSI Energy	97	-4
Public Service Electric and Gas	15	17
Puget Sound Power and Light	10	-26
Sacramento Municipal Utility District	-10	54
Southern California Edison	47	7
Tennessee Valley Authority	9	9
Wisconsin Electric Power	7	-17

Note: Data for 1994 are projected.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Forecast of DSM

The perception and the reality of competition in the electric utility industry are increasing. Analysts that believe competition will focus narrowly on the price of electricity expect that traditional DSM programs where utilities implement diverse programs in which all utility customers pay for most of the DSM investments will diminish. They expect that with the pressure to reduce prices, utilities and their regulators will focus on programs that produce short-term profits in which only the participants pay for the services received. Analysts that predict competition will encompass a broad range of energy services also predict that environmental quality will continue to be an important issue for society and for utility customers.⁷ Both projections would produce a different future for DSM. It is expected that utilities and other providers (e.g., energy service companies) will offer a variety of services, including energy efficiency and load management programs. Some of these analysts also think that State regulators will insist that all electricity users pay for DSM programs that provide societal benefits even if these programs raise electricity prices slightly.

The data that utilities submitted to EIA for the 1993 reporting year indicate that the effects of DSM programs are increasing, although DSM expenditures are increasing at a lesser rate than in the past. Thus, predictions that deregulation may lead to the demise of DSM are premature. Nationwide, DSM expenditures and effects increased from 1992 to 1993, and are projected to increase again from 1993 to 1994 and in 1998. However, the rate of increase for expenditures, although not for energy savings, is projected to decline.

Changes in the electric power industry within utilities, State regulatory commissions and the Federal Energy Regulatory Commission, and the financial community suggest that utilities will generally seek to minimize the adverse rate impacts of DSM programs. In some cases, this will involve reducing DSM budgets; in other cases, it may involve shifting program priorities away from energy efficiency and toward peakload reduction. In general, utilities are likely to focus their DSM programs more on customer service and customer productivity, and less on energy and capacity resources. Time will show whether DSM programs continue to grow, as predicted by utilities in 1993, or whether DSM will decline or be transformed by the forces of competition and industry restructuring. Following are some observations and speculations on utility DSM programs:

- In 1993, utilities planned for continued increases in DSM spending and effects. Expenditures for

energy efficiency programs continued to dominate in 1993, as in 1992, and are projected to continue in 1994, although the rate of growth is declining for DSM expenditures.

- Actual utility DSM expenditures in 1993 were almost 7 percent below the levels estimated on the 1992 Form EIA-861 submissions. The actual 1993 energy savings data were about the same as those estimated on the 1992 forms, and the actual 1993 peakload reduction was higher than that estimated on the 1992 forms.
- The 1994 data are anticipated to show lower DSM spending and activities for 1994 than the estimates reported on the 1993 Form EIA-861 submissions. Also, DSM spending for 1998 is expected to fall below the forecasts made on the 1993 forms. Recent reports from utilities in some States, especially California and New York, suggest further reductions in DSM spending.
- Utilities will likely and increasingly require participating customers to pay for the DSM services that they receive. Thus, utilities may reduce rebates and emphasize loans and other financing mechanisms that do not require contributions from nonparticipating customers. Utilities will likely develop improved market segmentation and marketing approaches that will allow them to maintain program participation levels at lower costs to all ratepayers.
- Utilities may focus their view of DSM on customer service (e.g., productivity and comfort improvements) and reduce their emphasis on DSM as an energy and capacity resource. In particular, utilities will downplay energy savings, primarily because of the revenue lost by such programs.

Recent trade media reports indicate that some utilities plan to expand their DSM programs. Utilities attribute such increases to DSM cost-effectiveness, compared with supply-side resources such as capacity additions, or to initiatives to improve customer service. Other utilities plan to reduce the rate of growth for DSM expenditures. Some of the greatest reductions in expenditures for DSM programs appear to be at utilities with rates (cents per kWh or kW) that are high relative to their marginal production costs. Reduced sales for these utilities would have an adverse effect on revenue. Some of the greatest reductions are in California, where a proceeding for retail access is pending. California utilities have argued that DSM should continue under retail access. The treatment of DSM under increased competition and retail access, however, remains uncertain. DSM spending has been affected by utility efforts to prepare for competition by reducing costs company-wide.

⁷ DSM contributes to an enhanced environment through reducing the consumption of fuels and construction of new power plants.

Conclusion

The effects of increased competition in the electric power industry on DSM are complex and their overall impacts uncertain. Some of the impacts could reduce the growth of DSM. If increased competition leads to increased generating unit efficiency and availability, the need for new resources could be deferred and less DSM may be cost effective. If DSM significantly reduces consumption, market prices for generation could be reduced, leading to a conflict of interests between DSM and ownership of deregulated generation. This conflict is not present under a noncompetitive, regulated environment where State utility commissions permit utilities to recover costs and lost revenue associated with reduced sales in the rate base.

In a competitive market, prices are likely to be unbundled with the energy component of prices for generation services moving toward marginal cost. Rate design changes could have three effects on DSM programs. First, according to analyses conducted by some utilities, reduced volumetric charges could significantly reduce or eliminate negative rate impacts from DSM programs that reduce sales. Second, as the energy component of rates falls toward marginal costs, incentives paid to customers, vendors, and manufacturers could become increasingly important to encourage DSM. This effect could partially offset a

trend toward reducing incentives to lower utility costs. Finally, under retail transmission access, unbundled charges for all transmission and/or distribution customers could be required to support utility DSM.

Other impacts could have a positive effect on DSM. Increased competition could prompt the expanded use of time-of-use and real-time pricing, as well as other load-management techniques. Additional data on patterns of customer energy use would be gathered to implement time- and location-specific pricing options. Assuming a constructive resolution of confidentiality and proprietary access questions, such information could help customers make more efficient energy choices.

The U.S. Department of Energy is sponsoring research to learn more about utility DSM plans and the reasons for possible changes in DSM program size and direction. This project, conducted by the Oak Ridge National Laboratory, the American Council for Energy-Efficient Economy, and the Electric Power Research Institute, involves detailed interviews with personnel from about 30 utilities and 20 State regulatory commissions. Approximately half the sample will consist of utilities and States where DSM is growing and the other half will consist of utilities and States where DSM is declining. The project will be completed in the summer of 1995.

Evaluation and Verification of Demand-Side Management Programs

Introduction

In 1992, Congress mandated the Energy Information Administration (EIA) to collect information on electric utility demand-side management (DSM) programs, including estimates of energy savings resulting from such programs and whether such savings estimates "were verified" (15 U.S.C. 790a, as amended by 7171(b)(k)(2) of the 1992 Energy Policy Act). Since 1989, utilities have reported the peakload reductions and energy savings achieved as a result of their DSM efforts to the Energy Information Administration (EIA) on the Form EIA-861, "Annual Electric Utility Report," an annual census of U.S. electric utilities. Utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 MWh must report their annual peakload reductions, energy savings, and costs attributable to DSM programs.¹ Pursuant to the congressional mandate, EIA included on Form EIA-861 for 1993 questions regarding whether reported DSM energy effects and peakload reductions undergo a verification process, the methodologies used in verification, and the purposes for which verification was carried out. In 1993, 545 large utilities with DSM programs were reported on the Form EIA-861.² EIA's data provide the most comprehensive available information on the energy savings and peakload reductions achieved by U.S. electric utility DSM programs.

This article³ presents a preliminary assessment of whether utilities evaluate or verify their energy savings and peakload reductions and the extent to which the evaluation results confirm savings reported on the Form EIA-861. The fifty utilities that reported the largest incremental energy savings and peakload reductions were contacted to obtain more detailed data on their evaluation and verification procedures. Twenty-five utilities agreed to provide additional information regarding their procedures. This information, together with the data gathered on the 1993 Form EIA-861, provide the basis for this assessment. The study examined evaluation and verification activity and spending at the utilities, peakload reductions and energy effects that have been the

subject of detailed evaluation studies, and, where adequate data were available, the extent to which evaluation results confirm savings reported on Form EIA-861.

Before discussing the results of this assessment study, a background for the development of evaluation and verification activities for utility DSM programs is presented.

Background

Electric utilities have increased DSM programs and expenditures rapidly in recent years. This can be attributed to an increased reliance on DSM as an alternative resource, thus deferring the need for additional generation capacity, and increased regulatory requirements that DSM be considered in utilities' Integrated Resource Planning. The reliance on DSM as a resource and the growth in energy savings, peakload reductions, and spending has increased attention on the extent to which DSM programs are achieving projected energy savings and peakload reductions.

In 1991, S. Nadel and K. Keating identified a gap between engineering estimates of savings and the results of impact evaluations for certain types of DSM programs. Examining the results of 42 impact evaluations, some of the first impact evaluations completed for large-scale utility DSM programs, Nadel and Keating found that projections of savings based on engineering estimates significantly exceeded verified savings from subsequent program evaluations. This was true particularly for residential retrofit programs, residential and commercial lighting programs directed at small customers, and programs involving the installation of low-flow shower heads. For residential appliance programs, new construction programs, and multiple measure commercial and industrial retrofit programs directed at large customers, they found that engineering estimates and impact evaluation results were, on average, comparable. The disparity between engineering estimates and evaluation results for some

¹ Utilities with sales to ultimate consumers and sales for resale less than 120,000 MWh only report incremental energy savings and peakload reductions, and the total costs of their DSM programs.

² Some utilities with DSM programs were reported on another utility's Form EIA-861; however, the forms received in 1993 represent the DSM activities of 545 large utilities. Consequently, the evaluation and verification data was reported only by those utilities that actually filled out the Form EIA-861.

³ Paul Centolella's support and contribution to the Electric Operating and Financial Data Branch in preparing this article are greatly appreciated.

DSM programs contributed to a spirited debate regarding the benefits of DSM.⁴

The most detailed comparative analysis of DSM program evaluations completed to date calculated a total utility and customer cost of saved energy for utility commercial lighting programs that was somewhat higher than some earlier estimates, but found that all of the programs studied were cost-effective.⁵ Other analysts have noted variance in the results of DSM programs and sought to identify characteristics of successful programs.⁶ The disparity between engineering estimates and evaluation results identified by Nadel and Keating has led DSM professionals to emphasize program evaluation, integration of evaluation results into estimates of program performance, and reduction in the disparity. More recent reviews of utility evaluations show greater comparability between initial estimates of program performance and the results of detailed impact evaluation.⁷

Most utilities with large DSM programs evaluate their programs to assess whether they are achieving projected peakload reductions or changes in energy usage, meeting customer needs, and/or are effective and efficient in their design, marketing, and implementation.⁸ Evaluation involves load, behavioral, market, organizational, or other research studies designed to provide useful information to program planners, regulators, or other decisionmakers.

History of Energy Program Evaluation

The application of the tools of social science research and statistics to the assessment of public programs dates back to the evaluation of agricultural programs in the 1930's. During the 1960's, program evaluation techniques were applied to government social programs. In the late 1970's, program evaluation methods began to be adapted to Federal Government energy programs, such as the State Energy Conservation Program and the Energy Extension Service.

Over the years, considerable technical literature has developed regarding the practice of program evaluation,

including the journal and publications of the American Evaluation Association. In 1984, Argonne National Laboratory initiated a series of conferences on energy program evaluation. The conference was repeated in 1985, 1987, 1989, 1991, and 1993. Measurement and evaluation also has been a major topic at the biennial American Council for an Energy Efficient Economy Summer Studies on Energy Efficiency in Buildings, the National Demand-Side Management Conferences, and a variety of other DSM and evaluation professional conferences.

As utility DSM programs grew in the late 1980's, evaluation techniques began to be applied to develop precise and reliable estimates of the exact size and timing of peakload reductions. Methodologies changed from an earlier reliance on primarily survey research to quasi-experimental designs, including control-groups to allow attribution of program effects. Program impacts are now commonly measured through statistical analysis of customer bills and specialized metering studies. As the role that DSM has played in utility resource acquisition has grown, so has the sophistication of DSM program evaluation.⁹

The role of evaluation also has been changed by the development of State ratemaking practices that either:

- Provide economic incentives to utilities based upon performance of their DSM programs or
- Authorize utilities to recover, through a deferral or rate adjustment mechanism, lost contributions to the recovery of their fixed costs that result from sales reductions attributed to DSM programs.

Regulators in 29 States and the District of Columbia have adopted some form of DSM performance incentive and/or net lost revenue adjustment (Figure FE1).¹⁰ Since projected or actual energy savings and peakload reductions from DSM programs began to affect utility rates, State public utility commissions have started to require and review evaluations of program performance. Regulatory scrutiny has led evaluators to emphasize quantitative savings estimates and improvements in the precision and confidence levels for evaluation results.

⁴ P. Joscow and D. Marron, "What does a Negawatt Really Cost: Evidence From Utility Conservation Programs," *Energy Journal*, Vol. 13, No. 4 (1992). A. Lovins, "Apples, Oranges, and Horned Toads: Is the Joscow & Marron Critique of Electric Efficiency Cost Valid?" *The Electricity Journal* (May 1994), p. 33.

⁵ J. Eto, E. Vine, L. Shown, R. Sonnenblick, and C. Payne, *The Cost and Performance of Utility Commercial Lighting Programs*, Lawrence Berkeley Laboratory, LBL-34967 (May 1994).

⁶ T. Flanagan and J. Weintraub, "The Most Successful DSM Programs in North America," *The Electricity Journal* (May 1993), p. 53. M. O'Neil, "DSM: It's a Contact Sport," *The Electricity Journal* (May 1993), p. 53. S. Nadel, M. Pye, and J. Jordan, *Achieving High Participation Rates: Lessons Taught By Successful DSM Programs*, American Council for an Energy Efficient Economy (January 1994).

⁷ See for example, M. Brown and P. Mihlmester, *Summary of California DSM Impact Evaluation Studies*, ORNL/CON-403 (October 1994).

⁸ For a general introduction to DSM program evaluation, see: M. McRae, et.al., *DSM Evaluation - Six Steps for Assessing Programs*, Electric Power Research Institute, CU-6999 (March 1992).

⁹ For a further discussion of changing directions in evaluation practice, see: M. Kushler, K. Keating, J. Schlegel, and E. Vine, "The Purpose, Practice, and Profession of DSM Evaluation: Current Trends, Future Challenges," *Proceedings of the ACEEE 1992 Summer Studies on Energy Efficiency in Buildings* (August 1992), p. 7.1.

¹⁰ M. Reid, J. Brown, and J. Deem, *Incentives for Demand-Side Management*, 3rd Ed., National Association of Regulatory Utility Commissioners (October 1993). See also, P. Centolella, S. Mitnick, B. Barkovich, and D. Boonin, *Cost Allocation for Electric Utility Conservation and Load Management Programs*, National Association of Regulatory Utility Commissioners (February 1993). Note: some jurisdictions that do not have lost revenue recovery mechanisms have adopted revenue decoupling approaches that do not rely on the results of DSM program evaluations.

Figure FE1. Financial Incentive and Lost Revenue Mechanisms Based on DSM Program Impacts by State, 1993

Source: Office of Coal, Nuclear, Electric and Alternate Fuels, DSM Verification Study of 25 Selected U.S. Electric Utilities.

Purposes of Utility DSM Program Evaluation

DSM program evaluations may be undertaken to meet one or more of the following basic objectives:

- Measurement of program impacts, including the measurement of energy effects, peakload reductions, changes in load shape, free ridership, contagion, persistence of savings, and the cost of measure implementation
- Identification of program improvements, including issues related to program operation, design, or organizational development; barriers to customer participation; and reasons for measures performing differently from expectations
- Description and characterization of program operation and effects, including how the program works, the market segments that have been reached, the market that remains, the interaction between DSM measures and customer behavior, or why program results occurred.

Verification of quantitative savings estimates is made primarily through impact evaluations. DSM program

impact evaluation is an examination of the effects of a program, including the quantitative documentation of the program's costs and benefits, the rate of participation and measure adoption, the performance of the DSM technologies, and the energy and load impacts.¹¹

Verification Defined

Generally, almost all impact evaluations are a process of verification. Typically, such studies are structured to compare changes in energy use in facilities that are selected by utilities to tabulate participation with changes in energy use in non-participating facilities. In this sense, impact evaluations verify the credibility of the utility's estimate of savings based on its tracking of program participation.

Verification also has come to have the more specialized meaning of meeting specified standards of proof for securing some economic benefit related to measured DSM program performance. Verification, in this sense, refers to confirming the achievement of savings as a contractual condition for payments to an energy service company or contractor, for purposes of granting the utility a shareholder incentive or the

¹¹ For a description of impact evaluation methodologies and practices, see: D. Violette, M. Ozog, M. Keneipp, F. Stern, and P. Hanser, *Impact Evaluation of DSM Programs, Vol I: A Guide to Current Practice*, Electric Power Research Institute, CU-7179, Vol. I (February 1991). D. Violette, F. Stern, and M. Ozog, *Impact Evaluation of DSM Programs, Vol. II: Case Studies and Applications (Revision I)*, Electric Power Research Institute, CU-7179, Vol. II, Revision I (November 1992).

recovery of lost contributions to the margin associated with lower sales,¹² or for the award of conservation and renewable energy allowances under the 1990 Clean Air Act Amendments.¹³

In this more specialized context, verification requirements can change the objectives and form of evaluation studies. Verification in this context cannot be an academic exercise directed at achieving statistically significant results, regardless of the complexity or time involved. Verification applies contractual or regulatory standards and places premiums on the clarity and reasonableness of the analysis, timely completion within a defined schedule, and a need for closure on a specific quantitative result. Protocols for undertaking such verification studies may be described in public utility commission approved verification plans or by specific contractual agreement. For example, the California Public Utilities Commission adopted detailed standards and procedures for the verification of program costs and benefits for purposes of utility claims for shareholder earning incentives (Part I), that are distinguished from the more general measurement agreements covering evaluation for resource planning purposes (Part II).¹⁴ Such protocols may specify a degree of precision and confidence level that must be achieved by the results of the verification study.¹⁵

Evaluation and Verification Methodologies

The objective of impact evaluation is to measure a change in energy use as a result of intervention in the market by a utility's DSM program. This objective is different from that of many other load research activities, including energy and demand forecasting, equipment saturation studies, and load shape characterization, that are designed to determine levels of energy consumption. Because impact evaluations focus on measuring changes in customer behavior and energy consumption as a result of a specific utility action, they can rely on methodologies that are experimental in nature. The key to such approaches is to define a baseline of what consumption would have been in the absence of the utility's DSM program. Control groups of non-participants are commonly utilized, but care must be taken to address self-selection bias and free-ridership (customers who would have installed a DSM measure even in the absence of the utility's program), as well as spillover or contagion effects of the program on non-participating customers and the adoption by participants of energy manage-

ment measures not included in the program. The objective is to measure impacts only due to utility-sponsored DSM programs.

Development of an efficient and effective evaluation requires planning that often begins before a DSM program is implemented, a clear understanding of the objectives of the evaluation and how those objectives are to be measured, and accepted definitions of key terms.¹⁶

To identify net program impacts, evaluators often use a combination of engineering, statistical, metering, and survey approaches. Methodologies that are used to measure energy effects and/or peakload reductions in impact evaluations include:

- **Engineering Methodologies:** Engineering methods are used primarily for evaluating new construction programs, estimating coincident peakload savings using measured energy savings and load shape information, and developing engineering estimates for use in conjunction with statistical analysis.
- **Statistical Analysis of Customer Billing Data:** Statistical analysis of billing data covers a variety of methodologies from simple pre-installation/post-installation comparison of billing data to complex regression models. Billing analysis typically compares consumption data before and after measure installation for a sample of participants with changes in energy consumption for a non-participant control group over a comparable time period. Such methodologies commonly normalize consumption data to take into account weather, and, in some cases, other factors such as economic conditions or energy prices. Some analyses utilize multi-variate regression techniques to increase precision by explaining the variability in savings due to factors such as weather, economic conditions, customer attitudes, or independent engineering estimates. Conditional demand models are one commonly used form of multi-variate regression analysis that rely on the fact that total consumption within a facility may be broken down by its end uses and the fact that evaluation is designed to measure only changes in consumption as a result of the installation of DSM measures and to estimate changes in end use loads attributable to specific conservation measures.¹⁷ Billing analysis is particularly useful for estimating net energy savings from a program in that it captures both technological and behavioral effects on participant consumption.

¹² M. Reid, et.al. (1993).

¹³ 42 U.S.C. 77651(c)(f), as amended by Public Law 101-549. U.S. Environmental Protection Agency, *The User's Guide to the Conservation Verification Protocols*, EPA 430-B-93-002 (April 1993).

¹⁴ California Public Utilities Commission, *Protocols and Procedures for Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs* (July 1994).

¹⁵ Ibid. U.S. Environmental Protection Agency (1993).

¹⁶ A significant contribution to the definition of common terminology and reporting formats occurred in 1991 with the publication of E. Hirst and C. Sabo, *Electric-Utility DSM Programs: Terminology and Reporting Formats*, Oak Ridge National Laboratory, ORNL/CON-337 (October 1991).

¹⁷ M. Parti and C. Parti, "The Total and Appliance-Specific Demand for Energy in the Residential Sector," *Bell Journal of Economics*, Vol. 11, No. 1 (Spring 1980), pp. 309-321. M. Parti and C. Parti, "Estimating the Consumption Impact of a Residential Conservation Program," *Proceedings of the 1992 ACEEE Summer Study on Energy Efficiency in Buildings* (August 1992), p. 4.177.

- **Measurement and Metering:** A range of direct measurement and metering approaches can be employed, including: measurements of hours of usage for lighting or equipment, spot metering to measure instantaneous loads, whole facility metering to provide a time-differentiated picture of energy consumption, and end-use metering for specific equipment or processes. Metering has the major advantage of providing an accurate, high resolution measurement that can be focused on the end use(s) of interest. Since metered data are differentiated by time period, it can be used to estimate reductions in coincident peak load and changes in load shape.
- **Site Visits and Surveys:** Site visits can be utilized to verify the installation of measures and improve tracking systems for DSM data. They also may be used to gather information that will be utilized in engineering or statistical analysis. Surveys may be used in impact evaluation to help estimate free ridership and contagion, evaluate factors that influence customer participation decisions, segment potential markets for the DSM program, or collect data for use in statistical analysis.
- **Combination Approaches:** The combination of multiple evaluation methodologies can increase the precision or reduce the sample size required for a given level of precision by explaining some of the variance in savings based on other available information. There are several approaches that utilize multiple methods including:
 - Triangulation compares the results of more than one method to estimate program impacts. Results of each method are compared to one another to form judgements regarding the quality and reliability of each estimate.¹⁸ For example, triangulation may be used to compare estimates of free ridership from survey data and participation models.
 - Statistically adjusted engineering estimates combine engineering estimates with statistical analysis of billing or metered data. In this approach, engineering estimates are used as independent variables in a regression equation, in the place of a dummy variable for participation.¹⁹
 - Leveraging data through the use of stratification and ratio estimation procedures can increase the precision of results by using additional information (such as square feet of

conditioned space) regarding the population of participants to adjust estimated savings.²⁰

- Bayesian methods have been proposed as a systematic approach to update and adjust prior information in a new evaluation. Information from previous engineering estimates, evaluations, or expert judgement could be used as inputs in a Bayesian estimation framework.²¹

Such methodologies are used to estimate both initial savings as a result of DSM programs and the persistence of savings over time.

Verification and Form EIA-861 Peakload Reduction and Energy Effects Data

Because EIA relies on a survey of electric utilities to gather peakload reduction and energy effects data, it would be difficult for EIA to standardize utility program evaluation practices or protocols. However, it is possible to examine the extent to which data reported to EIA may have been subject to evaluation under State requirements or the requirements of other Federal legislation, such as the requirement to use verified data in applying for conservation and renewable energy reserve allowances under the 1990 Clean Air Act Amendments.

On the 1993 Form EIA-861, utilities were asked, "Do your Energy Effects and Peak Reductions undergo a verification process?"²² Among the large utilities²³, 380 responded to this question.²⁴ Of those who responded, 238 indicated that the data reported to EIA was subject to some form of verification process. Additionally, utilities were asked to identify the primary and secondary methodologies (Figure FE2) they used to verify energy effects and peakload reductions from the following choices:

- Verification of Installation
- Stipulated Savings
- Measurement of Hours of Usage
- Billing Data Metering
- Whole Building Metering
- End-Use Metering
- Site-Specific Engineering Analysis

¹⁸ R. Ridge, "Triangulation and Budget Constraints in the Evaluation of Large Non-Residential Demand-Side Management Programs," *Proceedings of the 1993 International Energy Program Evaluation Conference* (August 1993), p. 251.

¹⁹ D. Violette, R. Brakken, A. Schon, and J. Greer, "Statistically Adjusted Engineering Estimates: What Can the Evaluation Analyst Do About the Engineering Side of the Analysis?," *Proceedings of the 1993 International Energy Program Evaluation Conference* (August 1993), p. 656.

²⁰ D. Violette, "New Directions in Impact Evaluation Methods," *1993 International Energy Program Evaluation Conference Workshop*, Association of Demand-Side Management Professionals (August 1993).

²¹ D. Violette, "Analyzing Data," *Handbook of Evaluation of Utility DSM Programs*, E. Hirst and J. Reed, ed., Oak Ridge National Laboratory (1991), p. 51-72.

²² Energy Information Administration Form EIA-861, "Annual Electric Utility Report," p. 6. As used in this form, the terms "Energy Effects" and "Peak Reductions" are specifically defined and refer to the data reported on pages 4 and 5 of that form.

²³ Large utilities are those with sales to ultimate consumers or sales for resale greater or equal to 120,000 MWh.

²⁴ Although 545 large utilities were represented on the 1993 Form EIA-861, some utilities' DSM activities are reported by another utility; hence, not all 545 large utilities actually filled out the DSM information requested on Form EIA-861 and had the opportunity to answer this question. The actual total who did answer this question was 380.

- Statistically Adjusted Engineering Analysis
- Other

Finally, utilities were asked to identify the primary and secondary purposes for undertaking verification analysis. Choices provided in the question included: internal utility evaluation requirement, State or Federal regulatory agency requirement, EPA conservation verification protocol or environmental requirement, terms of a performance contract, or other. Half of the large utilities, 119 of 238, indicated they are engaged in verification of DSM programs to meet a State or Federal regulatory requirement.

The responses to the evaluation and verification information on the Form EIA-861 by those 380 utilities indicate that most utilities are undertaking some form of program verification. It is not, however, possible to draw a direct inference from these responses regarding the overall accuracy of data recorded on Form EIA-861. A review of the evaluation and verification procedures of the 25 utilities that agreed to provide EIA with additional information on the procedures and results of impact evaluations will provide a preliminary assessment of the extent to which EIA data are consistent with the results of utility evaluation and verification studies.

Figure FE2. U.S. Electric Utility Primary Methodologies for Verification of DSM Energy Effects and Peakload Reductions by Number of Utilities, 1993

Note: Individual utilities may use more than one primary methodology.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

A Study Approach

The fifty utilities that reported the largest energy savings and peakload reductions for 1993 on the Form EIA-861 were asked to provide information, if readily available, on their evaluation processes. Twenty-five companies,²⁵ representing 29 Form EIA-861 respondents, given holding companies and recent mergers, agreed to provide information on their evaluation processes. Of interest were the number of evaluations performed during the years 1990 through 1994, utility spending on DSM program evaluation for the years 1990 through 1994, the length of time between close

of the program year and the completion of impact evaluations, the consideration of prior year evaluation results in estimating DSM impacts, State utility commission requirements for DSM program evaluation, and the proportion of 1993 total energy effects and peakload reductions associated with DSM programs for which the utility had conducted impact evaluations. Additionally, the utilities were asked to identify the four individual programs that made the greatest contribution to 1993 incremental energy savings and the four programs that made the greatest contribution to incremental peakload reductions, including information on the methodologies used in the evaluation of these programs.

²⁵ The time and effort of those utilities that participated in this study, and in many cases provided copies of impact evaluation reports, are sincerely appreciated.

Study Results

A review of the 25 utilities' responses to the study show that expenditures on evaluation processes have increased since 1990. Moreover, for most of these utilities a large fraction of the reported energy and peakload savings are from programs that have been subject to impact evaluations. In the following sections, the scope of evaluation activity and its implications for consistency of the reported peakload reductions and energy savings on the Form EIA-861 with the results of the impact evaluations are evaluated.

Number and Type of Evaluations Performed

The 25 utilities that provided information on their evaluation processes identified 336 separate impact evaluations of DSM programs. Of the completed evaluations, 155 covered DSM programs for the residential sector, and 191 addressed programs available to commercial and industrial customers.²⁶

Although the number of evaluation studies was large, it should be noted that they were not evenly distributed among the participating utilities. Six utilities, each of which had completed more than 20 impact evaluations, accounted for 225 of the 336 studies identified. Indeed, one utility had completed 51 impact

evaluations, another 48, and a third 45 such studies. In each of these cases, it appeared that the utility had prepared separate evaluations for most or all of its DSM programs for each program year, 1990 through 1994. Other utilities had fewer DSM programs or had completed one comprehensive evaluation for each program covering the period without performing repeated annual evaluations (Figure FE3).

Most of the utilities that participated in the study had completed multiple impact evaluations, but five companies had not completed any impact evaluation studies during the years 1990 through 1994. Of these five utilities, three were located in States that have no current requirement that utilities perform DSM program evaluations. The remaining two were in States where an evaluation requirement had been adopted by the State public utility commission in June 1994 and in December 1994, respectively. The utility which became subject to an evaluation requirement in June 1994 said that evaluation efforts were underway for two of its programs. The remaining four utilities did not have any evaluations in progress. The utilities that had not undertaken any impact evaluations had lower 1993 incremental energy savings as a percentage of annual sales, when compared with utilities that had completed one or more evaluations. The utilities that had not undertaken evaluations to a much greater degree had concentrated their DSM programs on achieving peakload reductions, as opposed to energy savings.

Figure FE3. Number of Program Evaluations Performed by 25 U.S. Electric Utilities, 1990 through 1994

Source: Office of Coal, Nuclear, Electric and Alternate Fuels, DSM Verification Study of 25 Selected U.S. Electric Utilities.

²⁶ Eleven program evaluations addressed programs that were available to residential, commercial, and industrial customers.

Comparing the evaluations identified in the study to the types of energy efficiency end uses and sectors for which the utilities reported DSM activities, residential load control programs were evaluated more frequently and programs aimed at industrial process uses were evaluated less frequently than other programs.

Evaluation of Spending

Information on DSM evaluation cost was provided by 20 of the 25 utilities in the study. In 1990, only 6 of the 20 utilities reported evaluation spending, for a total of \$3.1 million. The number of utilities increased to 11 in 1991, 18 in 1992, 19 in 1993, and 20 in 1994 when these utilities spent over \$24 million (Figure FE4). Spending by these 20 utilities peaked in 1992 at nearly \$28.5 million. The 1992 peak in evaluation spending is partially attributable to large initial evaluation expenditures by three utilities that began evaluation activities in that year. These three utilities spent \$4.9 million, \$2.3 million, and \$3.4 million, respec-

tively in 1992, their initial year of evaluation spending, and reduced spending on evaluation in 1993 to \$2.9 million, \$3.3 million, and \$1.1 million, respectively. The growth in evaluation spending is in part attributable to the increased number of utilities engaged in evaluation.

Another perspective on DSM evaluation spending by these 20 utilities considers the average amount spent by these utilities in the period from 1990 through 1994 (Figure FE5). Evaluation spending as a percentage of total DSM spending declined more rapidly in 1993 and 1994 than in 1990 through 1992, reflecting growth in overall DSM spending by these utilities.

While there is some disparity in the proportion of DSM spending devoted to evaluation among utilities that have active evaluation programs, with the exception of 1 utility in the first year of its evaluation activities, none of the 20 participating utilities had devoted more than 7 percent of DSM spending to evaluation activity in any year.

Figure FE4. DSM Evaluation Spending for Selected U.S. Electric Utilities, 1990 through 1994

Source: Office of Coal, Nuclear, Electric and Alternate Fuels, DSM Verification Study of 25 Selected U.S. Electric Utilities.

Figure FE5. Average DSM Evaluation Spending and DSM Evaluation Spending as a Percentage of Total DSM Spending for Selected U.S. Electric Utilities, 1990 through 1994

Sources: Office of Coal, Nuclear, Electric and Alternate Fuels, DSM Verification Study of 25 Selected U.S. Electric Utilities, and Energy Information Administration, Form EIA-861 "Annual Electric Utility Report."

Use of Prior Year Evaluation Results

With the exception of some interruptible load, standby generation, and direct load control programs for which the results of activating peakload reductions may be immediately measurable by the utility, it typically takes some period of time after the completion of a program year before an impact evaluation can be completed. Indeed, during the completion of this study in early 1995, there were a number of DSM programs for which 1993 evaluations were not yet complete. The utilities in the study were asked to give us the typical length of time after the completion of a program year when evaluation results might become available. Eighteen utilities responded to this question. The time frame for evaluation studies ranged from 2 months to 2 years. The average response for the 18 utilities that provided typical lengths of time for evaluation results to be completed was 13.4 months.

Because the due date for utilities to file the Form EIA-861 is May 1 of the year following the reporting year, the results of impact evaluations for many DSM programs for the reporting year will not be available at the time the Form EIA-861 is completed. However, in many instances, the results of prior year evaluations may be available and may provide a basis for estimating savings in the year for which data are

reported. The utilities were asked whether they incorporated the results of prior year evaluations in estimating DSM impacts. Of the 25 utilities that answered this question, 16 indicated that they did incorporate results of prior year evaluations, 4 indicated that they did not, and 5 had not completed any evaluations.

Portion of Peakload Reductions and Energy Savings that are Subject to Evaluation Studies

One of the objectives of this study was to determine the extent to which the DSM activities reported to EIA were subject to some form of utility program evaluation or verification activity. To assess this, the 25 utilities that participated in the study were asked what percentage of total energy savings and of peakload reductions for the 1993 program year are associated with DSM programs for which the utility has conducted an impact evaluation. For those utilities with peakload reduction programs, 19 responded that they had either conducted no evaluations with respect to peakload programs (i.e., 0 percent), or they provided the specific percentage of peakload reduction programs that undergo evaluations. For those utilities with energy savings programs, 17 responded that they had either conducted no evaluations for energy

savings programs (i.e., 0 percent), or they provided the specific percentage of programs that underwent evaluations. Some of the utilities had conducted impact evaluations for virtually all of their DSM programs. Ten utilities said that 85 percent of their energy savings were from programs for which the utility had conducted impact evaluations, and similarly, ten utilities also stated that 85 percent of their peakload reductions were from programs for which impact evaluations had been performed. The total percentage of peakload reductions and energy savings resulting from programs for which these utilities had conducted impact evaluations, including those with 0 percent, was calculated. The total percentage of peakload reduction programs for which impact evaluations had been performed was 68.1 percent, and the total percentage of energy savings for which impact evaluations had been performed was 73.8 percent.

Evaluation Methodology Utilized

To provide a rough indicator of the quality of the underlying evaluations, the 25 utilities in the study were asked to indicate the methodologies that had been used in their evaluations of major energy saving and peakload reduction programs for 1993. The results indicate utilization of a broad distribution of accepted methodologies. For 20 utilities that had completed impact evaluations, the methods and number of utilities employing each method are listed below:

- Site Visits and Verification of Installation, 16
- Measurement of Hours of Usage, 13
- Statistically Adjusted Engineering Models, 13
- Site-Specific Engineering Analysis, 12
- Survey Analysis of Free Ridership, 11
- Statistical Analysis of Billing Data, 10
- End-Use Metering, 10
- Whole Building Metering and Analysis of Specific Energy Uses, 9
- Stipulated Savings Based on Estimation Protocol or Agreement, 1

Only 1 of the 20 utilities did not rely on some form of statistical billing analysis or a direct metering methodology. This suggests that virtually all of the participating utilities that have conducted impact evaluations have some experience with experimental evaluation design.

Realization Rates

The results of impact evaluations are often presented in terms of the "realization rate" or the percentage of expected energy or peakload savings verified through the evaluation study.²⁷ The utilities in the study were asked to provide information comparing the 1993 DSM savings from their programs reported on Form EIA-861 with the results of impact evaluations for the same programs.

Based on the information provided by utilities, realization rates were calculated for peakload reductions for 25 major programs. Similar realization rate calculations were made with respect to energy savings for 24 major programs. Calculated on a weighted average basis (weighted by Form EIA-861 reported savings), the average peakload reduction realization rate for these programs was 88.3 percent. There was variation between the high and low reported realization rate for individual programs, which ranged from 48 percent to 146 percent. Two-thirds of the reported realization rates, however, fell within a narrower band from 75 percent to 115 percent. For energy savings, the weighted average realization rate was 84.5 percent. For energy savings, there was a larger spread between the lowest achieved realization rate of 39 percent and the highest realization rate of 172 percent. However, here again, two-thirds of the individual program realization rates fell within a narrower band between 75 percent and 115 percent.

The average realization rates for the utilities in the study, though below 100 percent, are reasonably high. It is important to remember that EIA records savings only by general program type (energy efficiency, direct load control, interruptible load, other load management, and other DSM) and major customer class. Thus, variations in the realization rates of individual programs could tend to balance out in EIA-reported data as low individual program realization rates could be offset by higher ones.

State Regulatory Requirements

The investor-owned utilities that participated in the study were located in 19 different States. Of those States, 14 had some specific requirement for the development of evaluation plans or performance of impact evaluations. These requirements ranged from detailed program evaluation protocols²⁸ and commission guidelines²⁹ to requirements that utilities develop and receive advance approval for evaluation plans that are appropriate to their DSM programs. With the exception of one utility in a State that adopted its evaluation requirements in December 1994, every participating investor-owned utility from a State where

²⁷ Our use of the term "realization rate" here parallels that found in evaluation studies, because savings reported to EIA are often based in part on the installation of DSM measures reported in the utilities' tracking system.

²⁸ California Public Utilities Commission, *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs* (Revised July 21, 1994).

²⁹ New York Public Service Commission, *Guidelines in Uniform Format for the Filing of Demand-Side Management Program Evaluation Plans* (1990).

the commission had some form of evaluation requirement had completed or was undertaking DSM program impact evaluations. By contrast, only two of the investor-owned utilities from the States lacking evaluation requirements had completed any impact evaluations during the years 1990 through 1994 or had any evaluations underway. These evaluation requirements appear to have had a substantial impact on the development of program evaluation practices by the participating utilities.

Additionally, each of the three noninvestor-owned utilities that participated in this study had undertaken impact evaluations of their programs. Two of these utilities had completed evaluations for all of their DSM programs. The other utility had completed evaluations for programs that represented two-thirds of its energy savings.

Conclusions and Recommendations

The data reported on Form EIA-861, together with the results of the study, support the observation that there has been a substantial increase in DSM impact evaluation activities since 1990, that large numbers of programs have been evaluated, and that these programs account for a substantial majority of the savings reported to EIA by the utilities that participated in the study. While care must be used in generalizing from the study of a small sample of individual programs, the realization rates calculated herein suggest that evaluation results indicate the aggregate peakload reductions and energy savings reported on the Form EIA-861 are reasonable estimates. Moreover, with increasing State commission requirements for and review of impact evaluations, the growth of evaluations during the 1990's, and the use of prior year evaluations in estimating energy savings by most of the participating utilities, one might expect improvements in the relationship of estimated savings reported on Form EIA-861 to evaluation results in years after 1993.

Profile: U.S. Electric Utility Demand-Side Management

This chapter provides a background of electric utility demand-side management in the United States and summarizes pertinent statistics for large utilities¹ in the United States on various aspects of demand-side management for the year.

Background

Demand-Side Management (DSM) consists of electric utilities' planning, implementing, and monitoring of activities designed to encourage consumers to modify their level and pattern of electricity consumption to mutually benefit the utility, consumer, and society. Utilities implement DSM programs to achieve two basic objectives: energy efficiency and load management. Energy efficiency is primarily achieved through programs that focus on reducing overall energy consumption of specific end-use devices and systems through the promotion of high-efficiency equipment and building design, typically reducing energy consumption throughout many hours of the year. Load management programs are designed to achieve peakload reduction and are primarily activated at the time of a utility's peak load. Load management programs have little effect on total energy consumption. Electric utilities have steadily increased DSM programs in the last decade to promote energy efficiency, reduce toxic air emissions, and achieve cost effectiveness for both the utility and the consumer, mainly by deferring the need to build new power plants.

The Energy Information Administration (EIA) collects data on DSM programs using six program categories:

Energy Efficiency programs are aimed at reducing the energy used by specific end-use devices and systems, without reducing the quality of energy services provided. These programs reduce overall electricity consumption over many hours during the year, although the greatest impacts of cost-effective programs often coincide with periods of peak usage. Such savings are generally achieved by substituting technically more advanced equipment to produce an equal level of

energy services (e.g. lighting, heating, motor drive) with less electricity. Examples include high-efficiency appliances, efficient lighting, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modification, efficient building design, advanced electric motors and drive systems, and heat recovery systems. Energy efficiency programs frequently incorporate rebates, financing, or other financial incentives for participation.

Direct Load Control represents the consumer load that can be interrupted during the periods of peak load by direct control of the utility system operator. Direct Load Control usually involves residential consumers who, for example, experience periodic interruptions in service to air conditioning by the utility during the hours of peak load.

Interruptible Load accounts for the consumer load that, in accordance with contractual arrangements, can be interrupted during periods of peak load either by the direct control of the utility system operator or by the action of the consumer at the direct request of the system operator. For example, large commercial and industrial consumers may obtain interruptible rates which provide a discount in return for their contractual agreement to reduce electrical loads upon request from the utility, usually as a strategy to reduce peak load.

Other Load Management refers to programs other than direct load control and interruptible load that limit peak loads, or shift peak load from on-peak to off-peak time periods, or encourage customers to respond to changes in the utility's cost of providing power.² It includes technologies that primarily shift all or part of a load from one time of day to another and secondarily may have an impact on energy consumption. Examples include space heating and water heating storage systems, cool storage systems, and load limiting devices in energy management systems. This category also includes programs that aggressively promote time-of-use (TOU) rates and other innovative rates such as real-time pricing. These rates are intended to reduce consumer bills and shift hours of operation of equipment from on-peak to off-peak or

¹ Large utilities are those with sales to ultimate consumers or sales for resale greater or equal to 120,000 MWh annually. These utilities are required to complete the entire Schedule V, "Demand-Side Management Information," of the Form EIA-861, "Annual Electric Utility Report." Small utilities with sales to ultimate consumers and sales for resale less than 120,000 MWh annually are required to report only incremental effects, total utility costs, total nonutility costs, and total DSM costs for the reporting year and the first and fifth forecast years. The data presented in this publication are for only large utilities, unless otherwise stated.

² Load control mechanisms such as interruptible load programs may be used in emergency situations. However, sometimes other load control mechanisms such as voltage reduction or rolling blackouts may be needed. While voltage reduction and rolling blackouts reduce load and save energy, they are not considered DSM programs. Voltage Reduction is further described in the Technical Notes.

high-cost to low-cost periods through the application of time-differentiated rates.

Other Demand-Side Management are those programs that capture effects of DSM programs that cannot be meaningfully included in any of the other program categories. Programs that promote consumer's substitution of other energy types for electricity and self-generation of electricity for the consumer's own use are included.

Load Building programs are aimed at increasing the use of existing electric equipment or the addition of electric equipment. Examples include industrial technologies such as induction heating and melting, direct arc furnaces and infrared drying; cooking for commercial establishments; and heat pumps for residences. Load Building includes programs that promote the substitution of electricity for other fuels.³

The concept of energy efficiency began in the 1970's in response to increasing capital costs, increasing consumer demand for electricity, rising electricity prices, and public awareness of limited energy resources. Federal regulators and State utility commissions responded with utility policies that contributed to the evolution of DSM. Federal legislation includes the Energy Policy and Conservation Act (1975), Energy Conservation and Production Act (1976), and National Energy Conservation Policy Act (1978). These three Acts provided the technical basis for utility conservation and load management programs. The Public Utility Regulatory Policies Act (1978) encouraged efficiency and more economically efficient electric rates by requiring State commissions to consider rate-making standards that further the purposes of end-use conservation, utility efficiency, and equitable rates. It required State commissions to review cost allocations across consumer classes, the accuracy of declining block rates in reflecting actual costs, time-of-day and seasonal rates, interruptible rates, and load management techniques. The Pacific Northwest Electric Power Planning and Conservation Act (1980) and Hoover Power Plant Act (1984) encouraged DSM through Federal power marketing authorities.

The National Appliance Energy Conservation Act (1987), Clean Air Act and its Amendments (1990), and the Energy Policy Act (1992) are the most recent Federal legislation affecting DSM. The Clean Air Act Amendments of 1990 are important to DSM because they internalized the cost of environmental externalities, specifically sulfur dioxide emissions, through the adoption of a market-based system of emission control in which utilities are issued allowances, each allowing the emission of one ton of sulfur dioxide per year. This system encourages utilities to reduce emissions in the most cost effective manner and sell excess allowances for a profit.

The Energy Policy Act of 1992 (EPACT) represents the continuing Federal interest in encouraging energy

efficiency. EPACT requires State utility commissions to consider standards that will require utilities to employ Integrated Resource Planning (IRP). Therefore, the most significant regulatory requirements affecting DSM are occurring at the State level. The IRP process also had its beginning in the 1970's when many States began to review utilities' plans for forecasting and siting of new generation capacity in response to the completion of controversial capacity additions over which there had been limited or no advance regulatory oversight. A majority of States now require IRP, and a continued interest in DSM can be partially attributed to it. IRP differs from conventional resource planning in that utilities consider both demand- and supply-side resources as options for meeting future electricity requirements, rather than consider only supply-side resources. Specifically, a utility is able to assume a decrease in demand as a result of DSM programs when planning to meet future electricity demands, rather than increasing generation methods.

DSM programs are a key component of IRP at a growing number of utilities. IRP differs among utilities based on availability of resources, owners of the resources, organizations involved in planning, and the criteria for resource selection. The IRP process is complex, taking into consideration the balance of supply- and demand-side resources, risk and diversity of supply, system reliability maintenance, external changes (economic conditions), energy prices, new technologies, regulatory and tax policy changes, and in some instances, the application of specific values to reflect environmental and other externalities.

The key elements of the DSM program planning and selection process are to identify and evaluate consumer characteristics that influence acceptance of and response to DSM programs and to identify utility considerations that affect resource requirements and the cost of alternative resource options. Among consumer characteristics that influence the success of a program are demographics, income, knowledge, awareness, attitude, and motivation. External influences such as economic conditions, energy prices, technologies, regulation, and tax credits also influence consumer's decisions regarding fuel and appliance choices, appliance and equipment efficiency, and appliance use. The utility's considerations are usually focused on the interaction of load shape distribution effects and regulatory compliance.

Due to the regulated nature of the electric power industry, utilities maximize revenue by selling as much electricity as possible; thus, DSM programs that reduce sales should not interest them. To promote DSM, State regulatory commissions developed financial incentives, such as authorizing utilities to seek recovery of DSM program costs and lost revenues and granting the utility a higher rate of return. These incentives are meant to neutralize the lost sales and revenues attributable to DSM. To compare DSM programs to other demand- and supply-side resources,

³ Load Building, although collected on the Form EIA-861, Schedule V, is not included in the discussions or data in this publication.

regulators have developed standardized benefit/cost tests. Four primary tests are widely used in planning to identify cost-effective DSM programs. For each test, the net present value and benefit/cost ratio can be determined. The present value equals total benefits of the program less total cost; the benefit/cost ratio is the ratio of total benefits to total costs. Based on these values, the utility can prioritize DSM programs to determine which, if any, might be implemented.

The Utility Cost Test measures the net change in a utility's revenue requirement resulting from a DSM program. The test compares the reduction in marginal energy and demand costs with utility program costs, incentive payments, and increased supply costs for a period in which load is increased. Designed to focus on a utility's revenue requirement, the test does not include any net costs incurred by participants.

The Participant Cost Test measures the benefits and costs of a DSM program to a customer by comparing the reduction in the customer's utility bill, plus any incentive paid by the utility, with the customer's out-of-pocket expenses. The test is often used as a "first-cut" in ranking program desirability and gauging potential program participation rates.

The Total Resource Cost Test measures the net costs of a DSM program as a resource option based on the total costs of the program, including both participant and utility costs. Like the utility cost test, it measures benefits as reductions to energy and demand costs, but also includes a review of all program costs, including installation, operation, maintenance, and administration, no matter who pays for them.

The Rate Impact Measure Test measures the direction and magnitude of the expected changes in rates for all customers when a utility implements a DSM program. The equation functions initially in the same manner as the utility cost test, comparing avoided supply cost savings with cost to the utility. It also, however, measures the revenue-shifting effect unique to DSM—that is, when costs must be spread over a smaller sales volume. The shift reduces revenue requirements, but not to the same extent as sales are reduced by DSM programs. The difference causes an increase in rates on a cents per kilowatt-hour basis. If a utility has excess capacity and its average costs exceeds its marginal costs, a DSM program will likely increase rates. The converse is true when marginal costs are forecast to exceed average costs.

Current Issues and Trends

Recent changes in the electric utility industry will likely have major impacts on the future of DSM. The possibility of competition in the industry has led to the speculation that DSM could decline. According to a study reported in *Public Utility Fortnightly*, in 1994, 67 percent of State regulators believed that there would be a decline in electric utility DSM as a result of utility deregulation. This is a 100-percent increase over the 33 percent of State regulators who believed in 1993 that there would be a decline. Regulators believe that a market will develop with private companies providing DSM services, as opposed to utility sponsored programs. The California Public Utilities Commission stated that DSM will not decline but "a competitive market will guide consumers to efficient energy use."⁴

The greatest response to the changes in the electric power industry have been observed in California. Pacific Gas and Electric proposed to decrease their DSM expenditures in an attempt to cover an electric rate freeze,⁵ and Southern California Edison plans to cut 1995 DSM expenditures as a part of their 1995 general rate case. In Michigan, Consumers Power unsuccessfully petitioned the Michigan Public Service Commission to reduce by half the utility's DSM expenditures because of increased competition.⁶

In 1993, 977 of the 3,212 electric utilities in the United States reported having DSM programs, an increase of 8 percent over 1992. Of these, 149 were investor-owned utilities, 413 were cooperatives, 413 were publicly owned, and 2 were Federally owned (Figure 1). These 977 utilities accounted for 86 percent of total retail sales of electricity in the United States. (Figure 1). Also, of the 977, 545 are classified as large utilities and 432 are small utilities. The 545 large utilities account for 84 percent of the total retail sales of electricity in the United States. The number of large utilities increased by 8 percent from 1992 when 504 reported having DSM programs and small utilities increased by 8 percent, from 401, in 1992.

In 1993, energy savings for the 545 large utilities increased to 45,294 million kWh, 9,731 million kWh over the 35,563 million kWh reported in 1992. These energy savings represented 1.6 percent of the total annual electric sales in 1993 of 2,861,462 million kWh.⁷

⁴ R. Rudden and J. Rosenbloom, "Competitive Forces and Market Risks: Regulators' Views on the Future Electric Utility Industry," *Public Utility Fortnightly*, (January 1, 1995) p. 9.

⁵ "PG&E Confirms Plans to Slash 1995 DSM Budget by \$100-Million; Rate Freeze Cited," *Demand-Side Report* (September 1, 1994) p.1.

⁶ "Michigan Says Consumers' Competitive Fears Are 'Vague'; Nixes DSM Budget Cut," *Demand-Side Report* (September 15, 1994) p.1.

⁷ Energy Information Administration, *Electric Sales and Revenue 1993*, DOE/EIA0540(93) (Washington, DC, January 1995) Table 1, p. 5.

Since 1989, annual energy savings increased at an average annual rate of 33 percent. Actual peakload reductions in 1993 were 23,069 MW, an increase of 34 percent over 1992. These actual peakload reductions are estimated to be approximately 3 percent of total peak load in the United States. Potential peakload reductions in 1993 were 39,508 MW, an increase of 22 percent over 1992. DSM cost was approximately \$2.7 billion, an increase of 17 percent over 1992, and an

average annual increase of 33 percent or \$1.9 billion since 1989 (Table 1).

Incremental effects are those caused by new programs and new participants in existing programs for the current reporting year. For 1993, incremental energy savings were 8,980 million kWh, incremental actual peakload reductions were 4,648 MW, and incremental potential peakload reductions were 7,586 MW (Figure 2).⁸

Table 1. U.S. Electric Utility DSM Program Energy Savings, Actual and Potential Peakload Reductions, and Cost, 1989 Through 1993

Item	1989	1990	1991	1992	1993
Energy Savings (million kilowatthours) ¹	² 14,672	² 20,458	² 24,848	² 35,563	45,294
Actual Peakload Reductions (megawatts) ^{1 3}	12,463	² 13,704	² 15,619	17,204	23,069
Potential Peakload Reductions (megawatts) ^{1 4}	NA	NA	NA	32,442	39,508
Cost (thousand dollars) ⁵	872,935	1,177,457	² 1,803,773	² 2,348,094	2,743,533

¹ Represents the total annual effects caused by all participants in demand-side management programs in effect during a given year. Included are new and existing participants in existing programs (those implemented in prior years that are in place during the reporting year) and all participants in new programs (those implemented during the reporting year).

² Due to data corrections by several large utilities, totals may not equal those previously published in the Electric Power Annual 1993. (See Technical Notes.)

³ Represents the actual reduction in annual peak load achieved by consumers in the following demand-side management program categories: energy efficiency, direct load control, interruptible load, other load management, other demand-side management; reflects real changes in the demand for electricity at the time of annual peak load, as opposed to the installed peakload reduction capability (i.e., Potential Peakload Reduction).

⁴ Represents the potential reduction in annual peak load installed in the following demand-side management program categories: direct load control, interruptible load, other load management, other demand-side management including the actual amount of peakload reductions achieved with energy efficiency programs; reflects potential changes in the demand for electricity at the time of annual peak load, as opposed to the actual peakload reduction achieved (i.e., Actual Peakload Reduction).

⁵ Referred to in the *Electric Power Annual, 1992* as "Expenditures," these data represent the sum of the direct and indirect utility costs for the year and reflect the total cash expenditures incurred for the year, reported in nominal dollars, that flowed out to support demand-side management programs.

NA=Data not available.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

⁸ It is incorrect to assume that 1992 annual effects plus 1993 incremental effects are equal to 1993 annual effects. Reasons for this include incremental effects being annualized, and participants dropping out of programs that are not included in incremental effects.

Figure 1. Number of U.S. Electric Utilities With and Without DSM Programs, 1993

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 2. U.S. Electric Utility DSM Program Incremental and Annual Effects for Energy Savings and Actual and Potential Peakload Reductions, 1993

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Energy Savings

Energy savings represent a decrease in the amount of electricity (measured in kilowatthours (kWh)) used. Energy savings primarily result from energy efficiency programs, but also result from load management and other DSM programs. Examples of energy efficiency programs include the use of highly efficient appliances; lighting; heating, ventilating and air conditioning (HVAC) systems or control modification; building design; advanced electric motors and drive systems; and heat recovery systems.

In 1993, energy savings increased 27 percent to 45,294 million kWh, from the 1992 level of 35,563 million kWh, although the rate of growth in energy savings for 1993 declined slightly from the average annual rate of 30 percent from 1989 to 1992. In 1994, energy savings were forecast to increase 16 percent to 52,655 million kWh, and by 1998, to increase at an average annual rate of 14 percent to 88,978 million kWh (Table 2).

The year's energy savings represented a reduction in electricity sales by electric utilities of 1.6 percent.⁹ Less than 15 percent of utilities with DSM programs reduced their energy sales by more than 1 percent in 1993 (Figure 3). Investor-owned utilities represented the greatest energy savings as a percentage of sales in 1993.

The 100 utilities with the greatest energy savings accounted for 96 percent of the total energy savings. The 50 utilities with the greatest energy savings accounted for 87 percent of the total and the 25 top utilities accounted for 75 percent of energy savings (Figure 4). These 100, 50, and 25 utilities with the greatest energy savings represented 58 percent, 37 percent, and 26 percent, respectively, of the total retail sales of electricity in the United States for 1993.

Investor-owned utilities accounted for 77 percent of energy savings in 1993, Federally owned utilities accounted for 15 percent, publicly owned, 6 percent, and cooperatives, 2 percent.¹⁰ However, cooperatives increased energy savings 76 percent over their 1992 level. The greatest energy savings were achieved at investor-owned utilities with 9,151 million kWh more in 1993 than in 1992. For 1994, Federally owned utilities predicted the greatest percentage of increase, 26 percent more than 1993, 1,788 million kWh; and investor-owned utilities predicted an increase of 4,945 million kWh. Cooperatives predicted the greatest average annual rate of increase, 26 percent, from 1994

to 1998. Investor-owned utilities predicted the greatest kWh increase for 1998, 23,814 million kWh (Table 2).

In 1993, energy efficiency programs accounted for 91 percent of the energy savings because the primary objective of this type of programs is energy savings while the primary objective of most other DSM programs is peakload reduction. Direct load control, interruptible load, other load management, and other DSM programs together accounted for the remaining 9 percent of energy savings. Energy savings as a result of energy efficiency programs increased 29 percent since 1992. The greatest percentage of increase, 40 percent, from 1992 to 1993 was in other DSM programs. For 1994, energy efficiency programs are predicted to continue to account for the greatest percent of energy savings, 93 percent. The greatest percentage of increase is predicted for direct load control programs, expected to increase 47 percent by 1994. By 1998, energy efficiency programs are expected to increase energy savings by an additional 30,812 million kWh over projected 1994 levels (Table 3).

During the year, more utilities reported having energy efficiency programs in place in the residential sector than in the commercial or industrial sectors. However, the commercial and industrial sectors still contributed a large percentage of energy savings due to economies of scale (i.e., a commercial building participating in an efficient lighting program will have greater energy savings than a single residential building). Energy efficiency end-use and program types in the residential sector were primarily for heating systems, cooling systems, and water heating. More utilities had lighting and cooling systems for the commercial sector, and in the industrial sector, the focus was on lighting and motors. Across all sectors, more utilities used energy audits than other programs, followed by rebates, loans, other incentives, and other programs (Table 4).

The residential sector accounted for 42 percent of energy savings in 1993, followed by the commercial, industrial, and other sectors with 37 percent, 19 percent, and 2 percent, respectively. The greatest percentage of increase from 1992 to 1993 was in the commercial sector, with an increase of 35 percent, mainly due to an increase in utility-administered efficient lighting programs (Table 5).

In 1993, incremental energy savings (the savings achieved by new programs and new participants in existing programs in a given year) increased from

⁹ Total U.S. electric utility sales for 1993 were 2,861,462 million kWh.

¹⁰ Investor-owned utilities accounted for 76 percent of total sales, publicly owned utilities, 14 percent, cooperatives, 8 percent, and Federally owned utilities, 2 percent.

6,664 million kWh in 1992 to 8,980 million kWh for large utilities and decreased from 48 million kWh to 22 million kWh for small utilities. By class of ownership, large investor-owned utilities accounted for the greatest percentage of incremental energy savings at 85 percent, and the greatest incremental increase in kWh, from 5,642 million kWh in 1992 to 7,639 million kWh in 1993 (Table 6).

By program category, the greatest increase during the year in incremental energy savings was achieved by large utilities with energy efficiency programs, which increased 2,258 million kWh over the 1992 level of 6,214 million kWh. The greatest percentage of increase from 1992 to 1993 was in the other DSM category, which increased 124 percent. For all remaining program categories, large utilities decreased in incremental savings. For small utilities in 1993, other DSM programs had incremental savings that remained the same as 1992 incremental levels, and all other categories of programs decreased (Table 7).

The commercial sector accounted for the greatest incremental savings, 4,557 million kWh, in 1993 for large utilities, amounting to 51 percent of the total incremental savings. The commercial sector also accounted for the greatest increase over the 1992 level of incremental energy savings, increasing by 1,224 million kWh. The residential sector contributed 2,780 million kWh, 31 percent, of total incremental energy savings. The greatest percentage of increase

over 1992 was achieved by the industrial sector which increased by 50 percent (Table 8).

The NERC region with the greatest percentage of energy savings was Western Systems Coordinating Council (WSCC), accounting for 40 percent of energy savings in 1993. The primary reason the WSCC had the most energy savings is that Bonneville Power Administration and Southern California Edison had the two largest energy efficiency programs of all electric utilities. The region with the second largest energy savings was Southeastern Electric Reliability Council (SERC), with 25 percent of total energy savings. In 1992, these two regions combined accounted for 70 percent of total energy savings in the United States. WSCC and Northeast Power Coordinating Council (NPCC) both reduced energy sales by 3 percent as a result of their DSM programs. The remaining regions had reductions in energy sales of less than 1.5 percent attributable to DSM programs (Tables 9 and 10).

For 1994, the greatest percentage of increase, 91 percent, in energy savings is predicted for the Mid-Atlantic Area Council (MAAC) region, primarily due to large increases by Public Service Electric and Gas and Potomac Electric and Power Company. The greatest increase in kWh in both 1994 and 1998 is expected for the WSCC region. The East Central Area Reliability Coordination Agreement (ECAR) region is expected to have the greatest annual rate of growth between 1994 and 1998 at 26 percent (Table 9).

Table 2. U.S. Electric Utility DSM Program Energy Savings by Class of Ownership, 1989 Through 1993, 1994 and 1998
(Million Kilowatthours)

Class of Ownership	Historical Savings					Projected Savings	
	1989	1990	1991	1992	1993	1994	1998
Investor-Owned	8,194	13,868	17,521	25,926	35,077	40,022	63,836
Publicly Owned	708	913	1,448	2,416	2,562	3,062	5,436
Cooperative	158	94	185	400	705	833	2,036
Federal	5,611	5,584	5,695	6,822	6,950	8,738	17,670
U.S. Total	14,672	20,458	24,848	35,563	45,294	52,655	88,978

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 3. Energy Savings as a Percentage of Retail Sales by U.S. Electric Utilities with DSM Energy Savings Programs and by Class of Ownership, 1993

Note: This graph only shows utilities that reported energy savings.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 4. The Top 25, 50, and 100 U.S. Electric Utilities with the Greatest DSM Program Energy Savings by Class of Ownership, 1993

Note: There are no cooperatives in the top 25 or 50 electric utilities.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 3. U.S. Electric Utility DSM Program Energy Savings by Program Category, 1992, 1993, 1994, and 1998
(Million Kilowatthours)

Program Category	Historical Savings	
	1992	1993
Energy Efficiency	31,779	41,119
Direct Load Control	289	319
Interruptible Load	1,994	2,119
Other Load Management	419	223
Other Demand-Side Management	1,081	1,514
U.S. Total	35,563	45,294
	Projected Savings	
	1994	1998
Energy Efficiency	48,819	79,631
Direct Load Control	469	543
Interruptible Load	1,929	6,178
Other Load Management	398	1,177
Other Demand-Side Management	1,039	1,449
U.S. Total	52,655	88,978

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 4. Number of U.S. Electric Utilities with DSM Energy Efficiency Programs by End Uses and Program Types by Sector, 1993

ITEM	Sectors		
	Residential	Commercial	Industrial
End Uses			
Heating Systems	264	172	105
Cooling Systems	271	200	134
Water Heating	283	144	98
Lighting	182	208	174
Building Shell	186	118	89
New Construction	195	132	96
Appliances	131	63	40
Motors	—	140	151
Process Heating	—	42	81
Electrolytics	—	10	26
Other Systems	20	27	28
Program Types			
Energy Audits	290	242	181
Rebate	271	197	137
Loans	139	80	55
Other Incentives ¹	92	77	66
Other Programs	42	37	35

¹ This category reflects programs that offer cash or noncash awards to electric energy efficiency deliverers, such as appliance and equipment dealers, building contractors, and architectural and engineering firms, that encourage consumer participation in a demand-side management program and adoption of recommended measures.

Notes: •Data are final. •Data represent the total number of electric utilities that focus energy efficiency activities on specific end uses and program types.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 5. U.S. Electric Utility DSM Program Energy Savings by Sector, 1992 and 1993
(Million Kilowatthours)

Sector	1992	1993
Residential	15,322	19,241
Commercial	12,301	16,567
Industrial	7,192	8,644
Other	748	842
U.S. Total	35,563	45,294

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 6. U.S. Electric Utility Incremental Energy Savings by Class of Ownership, 1992 and 1993
(Million Kilowatthours)

Class of Ownership	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Investor-Owned	5,642	7,639	*	*	5,642	7,639
Publicly Owned	600	528	17	14	617	543
Cooperative	66	211	31	7	98	219
Federal	355	601	0	0	355	601
U.S. Total	6,664	8,980	48	22	6,712	9,002

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 7. U.S. Electric Utility Incremental Energy Savings by Program Category, 1992 and 1993
(Million Kilowatthours)

Program Category	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Energy Efficiency	6,214	8,472	12	11	6,225	8,483
Direct Load Control	40	25	30	6	71	31
Interruptible Load	130	75	3	2	133	77
Other Load Management	106	19	2	1	107	20
Other Demand-Side Management	174	389	2	2	176	391
U.S. Total	6,664	8,980	48	22	6,712	9,002

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 8. U.S. Electric Utility Incremental Energy Savings by Sector, 1992 and 1993
(Million Kilowatthours)

Sector	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Residential	2,165	2,780	14	13	2,179	2,794
Commercial	3,333	4,557	5	4	3,338	4,561
Industrial	1,014	1,518	26	3	1,040	1,520
Other	151	125	3	2	154	127
U.S. Total	6,664	8,980	48	22	6,712	9,002

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
ECAR					
Appalachian Power Co	Investor-Owned	*	40	59	246
Cincinnati Gas & Electric Co	Investor-Owned	9	6	47	244
Cleveland Electric Illum Co	Investor-Owned	1	19	35	230
Columbus Southern Power Co	Investor-Owned	16	26	50	174
Consumers Power Co	Investor-Owned	117	280	596	1,456
Crawfordsville Elec Lgt&Pwr Co	Publicly Owned	—	*	*	1
Dayton Power & Light Co	Investor-Owned	25	90	90	206
Detroit Edison Co	Investor-Owned	14	149	76	262
East Kentucky Power Coop Inc	Cooperative	3	-1	-1	55
Indianapolis Power & Light Co	Investor-Owned	34	41	72	177
Indiana Michigan Power Co	Investor-Owned	5	4	10	103
Kentucky Utilities Co	Investor-Owned	53	37	42	61
Kingsport Power Co	Investor-Owned	*	4	4	20
Louisville Gas & Electric Co	Investor-Owned	0	16	30	35
Monongahela Power Co	Investor-Owned	201	217	220	253
Ohio Edison Co	Investor-Owned	44	61	134	526
Ohio Power Co	Investor-Owned	18	18	40	207
Owen Electric Coop Inc	Cooperative	*	1	1	3
Pennsylvania Power Co	Investor-Owned	19	0	4	20
Potomac Edison Co	Investor-Owned	286	314	341	505
PSI Energy Inc	Investor-Owned	25	141	289	941
South Kentucky Rural E C C	Cooperative	*	—	—	—
Southern Indiana Gas & Elec Co	Investor-Owned	4	16	36	132
Toledo Edison Co	Investor-Owned	2	16	24	117
Utilities Dist-Western IN REMC	Cooperative	*	12	2	6
Virginia Tech Electric Service	Publicly Owned	*	*	*	*
West Penn Power Co	Investor-Owned	250	263	272	324
Wheeling Power Co	Investor-Owned	2	1	2	12
Kentucky Power Co	Investor-Owned	*	6	7	39
American Mun Power-Ohio Inc	Publicly Owned	1	*	*	1
ECAR Total		1,129	1,779	2,483	6,355
ERCOT					
Austin City of	Publicly Owned	407	448	513	778
Brazos Electric Power Coop Inc	Cooperative	2	6	2	16
Bryan City of	Publicly Owned	6	8	10	18
Central Power & Light Co	Investor-Owned	84	185	203	343
Denton City of	Publicly Owned	1	0	0	0
Georgetown City of	Publicly Owned	—	1	1	1
Greenville Electric Util Sys	Publicly Owned	1	*	*	4
Houston Lighting & Power Co	Investor-Owned	71	130	174	312
Johnson County Elec Coop Assn	Cooperative	*	4	0	0
Lower Colorado River Authority	Publicly Owned	89	105	112	205
Magic Valley Electric Coop Inc	Cooperative	—	2	2	4
Medina Electric Coop Inc	Cooperative	4	0	0	0
San Antonio Public Service Bd	Publicly Owned	129	0	0	0
San Bernard Electric Coop Inc	Cooperative	*	*	*	*
Tri-County Electric Coop Inc	Cooperative	1	1	2	3
West Texas Utilities Co	Investor-Owned	61	62	45	102
San Marcos City of	Publicly Owned	11	11	*	*
Texas-New Mexico Power Co	Investor-Owned	37	105	132	223
Texas Utilities Electric Co	Investor-Owned	110	1,221	1,288	1,288
ERCOT Total		1,013	2,288	2,483	3,295
MAAC					
A & N Electric Coop	Cooperative	0	1	1	2
Atlantic City Electric Co	Investor-Owned	55	65	59	-5
Baltimore Gas & Electric Co	Investor-Owned	116	190	258	498
Conowingo Power Co	Investor-Owned	3	4	7	13
Delmarva Power & Light Co	Investor-Owned	31	46	43	115
Easton Utilities Comm	Publicly Owned	—	*	2	12
Jersey Central Power&Light Co	Investor-Owned	67	106	163	277
Metropolitan Edison Co	Investor-Owned	277	81	82	140
Pennsylvania Electric Co	Investor-Owned	59	75	92	137
Pennsylvania Power & Light Co	Investor-Owned	20	29	25	40
Philadelphia Electric Co	Investor-Owned	52	60	67	71
Potomac Electric Power Co	Investor-Owned	214	431	774	2,391
Public Service Electric&Gas Co	Investor-Owned	58	57	604	1,500

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
MAAC (Continued)					
Southern Maryland El Coop Inc	Cooperative	1	4	20	150
UGI Utilities Inc	Investor-Owned	*	*	*	*
Adams Electric Coop Inc	Cooperative	1	1	1	1
Bedford Rural Elec Coop Inc	Cooperative	—	*	*	*
Southwest Central R E C Corp	Cooperative	*	0	*	*
MAAC Total		954	1,150	2,198	5,340
MAIN					
Central Illinois Light Co	Investor-Owned	1	*	0	20
Coles-Moultrie Electric Coop	Cooperative	*	*	*	*
Columbia City of	Publicly Owned	3	4	5	9
Commonwealth Edison Co	Investor-Owned	*	2	0	0
Cuivre River Electric Coop Inc	Cooperative	*	0	0	0
Eastern Illini Electric Coop	Cooperative	2	3	3	3
Illinois Power Co	Investor-Owned	0	34	34	34
Madison Gas & Electric Co	Investor-Owned	62	90	118	249
Manitowoc Public Utilities	Publicly Owned	7	9	2	1
Marshfield City of	Publicly Owned	1	2	4	9
Southeastern IL Elec Coop Inc	Cooperative	4	124	206	887
Southwestern Electric Coop Inc	Cooperative	28	29	26	36
Springfield City of	Publicly Owned	5	6	7	13
Union Electric Co	Investor-Owned	1	0	7	282
Wisconsin Electric Power Co	Investor-Owned	751	1,286	1,392	1,751
Wisconsin Power & Light Co	Investor-Owned	133	197	293	648
Wisconsin Public Power Inc Sys	Publicly Owned	3	16	40	254
Wisconsin Public Service Corp	Investor-Owned	210	322	418	819
MAIN Total		1,212	2,125	2,555	5,015
MAPP(U.S.)					
Ames City of	Publicly Owned	1	1	5	19
Anoka Electric Coop	Cooperative	8	—	—	—
Austin City of	Publicly Owned	*	*	1	3
Barron Electric Coop	Cooperative	-3	*	*	*
Beatrice City of	Publicly Owned	*	*	*	*
Cedar Falls City of	Publicly Owned	*	19	20	21
Central Iowa Power Coop	Cooperative	—	48	52	72
Central Power Elec Coop Inc	Cooperative	*	*	*	*
Clark Electric Coop	Cooperative	-7	*	*	*
Coop Power Assn	Cooperative	14	10	31	115
Cornhusker Public Power Dist	Publicly Owned	*	*	*	*
Fairmont Public Utilities Comm	Publicly Owned	*	1	1	2
Freeborn-Mower Electric Coop	Cooperative	—	*	*	*
Grant-Lafayette Electric Coop	Cooperative	-8	1	1	3
IES Utilities Inc	Investor-Owned	—	21	80	380
Interstate Power Co	Investor-Owned	16	34	62	87
Iowa Electric Light & Power Co	Investor-Owned	-3	—	—	—
Iowa Lakes Electric Coop	Cooperative	32	38	20	30
Iowa Southern Utilities Co	Investor-Owned	2	—	—	—
Iowa-Illinois Gas&Electric Co	Investor-Owned	—	0	23	88
Lincoln Electric System	Publicly Owned	12	14	15	19
Linn County Rural E C A	Cooperative	*	—	—	—
Marshall City of	Publicly Owned	*	*	*	*
Nodak Electric Coop Inc	Cooperative	1	2	3	3
Midland Power Coop	Cooperative	3	6	7	7
Maquoketa Valley Rrl Elec Coop	Cooperative	*	—	—	—
Minnesota Power & Light Co	Investor-Owned	18	27	122	159
Minnkota Power Coop Inc	Cooperative	0	7	0	0
Moorhead City of	Publicly Owned	*	*	1	2
Muscatine City of	Publicly Owned	*	2	3	5
North Platte City of	Publicly Owned	1	*	*	*
Northern States Power Co	Investor-Owned	197	86	289	460
Northern States Power Co	Investor-Owned	507	1,009	1,032	2,416
Northwest Iowa Power Coop	Cooperative	4	6	6	7
Northwestern Public Service Co	Investor-Owned	*	0	0	0
Oakdale Electric Coop	Cooperative	-8	*	*	*
Omaha Public Power District	Publicly Owned	1	1	14	50
Otter Tail Power Co	Investor-Owned	10	38	39	21

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
MAPP(U.S.) (Continued)					
Owatonna City of	Publicly Owned	1	1	*	*
People's Coop Power Assn	Cooperative	-3	*	*	*
Pella City of	Publicly Owned	—	2	2	2
Rochester Public Utilities	Publicly Owned	1	*	*	1
Runestone Electric Assn	Cooperative	1	2	2	2
Shakopee Public Utilities Comm	Publicly Owned	0	*	*	*
Superior Water Light&Power Co	Investor-Owned	8	2	20	36
Tri-County Electric Coop	Cooperative	-8	*	*	1
United Power Assn	Cooperative	15	23	29	33
Verendrye Electric Coop Inc	Cooperative	*	*	*	*
Vernon Electric Coop	Cooperative	—	*	*	*
Mountrail-Williams El Coop Inc	Cooperative	*	14	15	16
Wild Rice Electric Coop Inc	Cooperative	50	56	54	58
Municipal Energy Agency of NE	Publicly Owned	0	1	1	3
Midwest Power Systems Inc	Investor-Owned	75	105	123	291
Cass County Electric Coop Inc	Cooperative	1	2	2	3
MAPP(U.S.) Total		940	1,581	2,075	4,415
NPCC(U.S.)					
Bangor Hydro-Electric Co	Investor-Owned	35	38	45	71
Blackstone Valley Electric Co	Investor-Owned	42	61	55	87
Boston Edison Co	Investor-Owned	336	382	133	55
Braintree Town of	Publicly Owned	3	*	*	20
Burlington City of	Publicly Owned	18	9	9	9
Cambridge Electric Light Co	Investor-Owned	49	71	71	71
Central Hudson Gas & Elec Corp	Investor-Owned	75	97	122	265
Central Maine Power Co	Investor-Owned	352	390	449	355
Central Vermont Pub Serv Corp	Investor-Owned	13	41	55	53
Chicopee City of	Publicly Owned	3	4	3	4
Citizens Utilities Co	Investor-Owned	2	2	8	24
Commonwealth Electric Co	Investor-Owned	109	121	120	120
Concord Electric Co	Investor-Owned	*	1	3	13
Connecticut Light & Power Co	Investor-Owned	1,035	1,160	1,193	1,490
Connecticut Valley Elec Co Inc	Investor-Owned	*	2	1	7
Consolidated Edison Co-NY Inc	Investor-Owned	638	498	1,634	2,585
Eastern Edison Co	Investor-Owned	62	94	11	179
Exeter & Hampton Electric Co	Investor-Owned	*	1	4	13
Fitchburg Gas & Elec Light Co	Investor-Owned	8	8	9	20
Green Mountain Power Corp	Investor-Owned	10	30	46	108
Holyoke City of	Publicly Owned	*	*	*	*
Hingham City of	Publicly Owned	*	4	4	5
Jamestown City of	Publicly Owned	*	*	6	6
Littleton Town of	Publicly Owned	—	*	*	*
Long Island Lighting Co	Investor-Owned	460	580	686	1,129
Maine Public Service Co	Investor-Owned	6	5	7	9
Massachusetts Electric Co	Investor-Owned	345	549	691	1,374
Massena Town of	Publicly Owned	*	1	1	1
Montaup Electric Co	Investor-Owned	111	170	174	299
Narragansett Electric Co	Investor-Owned	127	181	214	320
New Hampshire Elec Coop Inc	Cooperative	6	7	8	43
New York State Elec & Gas Corp	Investor-Owned	139	695	589	810
Newport Electric Corp	Investor-Owned	8	15	17	33
Niagara Mohawk Power Corp	Investor-Owned	475	737	965	1,848
North Attleborough Town of	Publicly Owned	*	—	—	—
Norwood City of	Publicly Owned	*	1	*	1
Orange & Rockland Utils Inc	Investor-Owned	123	167	203	341
Power Authority of State of NY	Publicly Owned	42	81	167	354
Public Service Co of NH	Investor-Owned	0	1	6	44
Reading Town of	Publicly Owned	*	*	*	*
Rochester Gas & Electric Corp	Investor-Owned	127	183	202	375
Shrewsbury Town of	Publicly Owned	1	1	1	3
Taunton City of	Publicly Owned	11	16	8	10
United Illuminating Co	Investor-Owned	75	137	151	280
Omya Inc	Investor-Owned	—	*	8	14
Western Massachusetts Elec Co	Investor-Owned	183	202	219	347
Granite State Electric Co	Investor-Owned	21	28	34	67
NPCC(U.S.) Total		5,049	6,769	8,332	13,263

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
SERC					
Aiken Electric Coop Inc	Cooperative	3	1	1	2
Alabama Electric Coop Inc	Cooperative	18	24	4	4
Alabama Power Co	Investor-Owned	453	449	534	699
Albemarle City of	Publicly Owned	—	*	*	*
Altamaha Electric Member Corp	Cooperative	*	*	*	*
Amicalola Electric Member Corp	Cooperative	*	*	*	*
BARC Electric Coop Inc	Cooperative	0	*	*	*
Berkeley Electric Coop Inc	Cooperative	4	4	4	6
Black River Electric Coop Inc	Cooperative	4	2	2	3
Canoochee Electric Member Corp	Cooperative	*	*	*	*
Carolina Power & Light Co	Investor-Owned	1,824	2,062	2,126	2,621
Carroll Electric Member Corp	Cooperative	1	1	1	1
Central Georgia El Member Corp	Cooperative	2	2	3	5
Central Electric Member Corp	Cooperative	2	*	2	4
Coast Electric Power Assn	Cooperative	*	*	*	*
Coastal Electric Member Corp	Cooperative	—	1	1	1
Cobb Electric Membership Corp	Cooperative	14	16	2	2
Community Electric Coop	Cooperative	—	*	*	*
Coweta-Fayette El Member Corp	Cooperative	5	57	58	64
Crescent Electric Member Corp	Cooperative	*	1	1	1
Douglas City of	Publicly Owned	1	1	1	2
Duke Power Co	Investor-Owned	50	74	27	1,420
Excelsior Electric Member Corp	Cooperative	*	*	*	*
Fairfield Electric Coop Inc	Cooperative	*	*	*	*
Fayetteville Public Works Comm	Publicly Owned	*	*	*	*
Fitzgerald Wtr Lgt & Bond Comm	Publicly Owned	*	*	*	*
Flint Electric Membership Corp	Cooperative	1	4	3	3
Florida Keys El Coop Assn Inc	Cooperative	*	*	*	*
Florida Power & Light Co	Investor-Owned	2,559	2,738	2,888	3,273
Florida Power Corp	Investor-Owned	922	989	989	989
Fort Pierce Utilities Auth	Publicly Owned	1	1	1	1
Four County Elec Member Corp	Cooperative	2	1	1	1
Gainesville Regional Utilities	Publicly Owned	55	65	66	78
Gastonia City of	Publicly Owned	1	—	—	—
Georgia Power Co	Investor-Owned	61	134	175	476
Grady County Elec Member Corp	Cooperative	*	*	*	*
Greenville Utilities Comm	Publicly Owned	13	14	15	19
Gulf Power Co	Investor-Owned	401	418	438	530
Harrisonburg City of	Publicly Owned	0	0	2	2
Haywood Electric Member Corp	Cooperative	*	*	*	*
High Point Town of	Publicly Owned	*	0	0	0
Jackson Electric Member Corp	Cooperative	10	11	11	13
Jacksonville Electric Auth	Publicly Owned	104	108	116	150
Jefferson Electric Member Corp	Cooperative	*	*	1	1
Jones-Onslow Elec Member Corp	Cooperative	2	2	2	3
Kissimmee Utility Authority	Publicly Owned	6	4	5	8
Lakeland City of	Publicly Owned	1	1	1	2
Laurens Electric Coop Inc	Cooperative	*	*	*	*
Laurinburg City of	Publicly Owned	—	*	*	*
Lawrenceville City of	Publicly Owned	*	*	*	*
Lee County Electric Coop Inc	Cooperative	19	21	20	29
Leesburg City of	Publicly Owned	*	*	*	*
Lumbee River Elec Member Corp	Cooperative	2	2	2	3
Lumberton City of	Publicly Owned	*	*	*	*
Lynches River Elec Coop Inc	Cooperative	2	1	1	1
Manassas City of	Publicly Owned	4	3	4	5
Marietta City of	Publicly Owned	*	2	0	0
Mecklenburg Electric Coop Inc	Cooperative	*	6	1	1
Mid-Carolina Electric Coop Inc	Cooperative	6	2	3	5
Mississippi Power Co	Investor-Owned	—	1	1	1
Mitchell Electric Member Corp	Cooperative	*	*	*	1
Monroe City of	Publicly Owned	*	*	1	1
Morganton City of	Publicly Owned	7	—	—	—
New Bern City of	Publicly Owned	*	*	*	*
Newberry City of	Publicly Owned	*	0	0	0
Northern Virginia Elec Coop	Cooperative	3	1	1	2
Northern Neck Elec Coop Inc	Cooperative	*	*	*	*

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
SERC (Continued)					
Ocala City of	Publicly Owned	8	9	3	6
Orangeburg City of	Publicly Owned	*	*	1	1
Palmetto Electric Coop Inc	Cooperative	1	1	7	10
Orlando Utilities Comm	Publicly Owned	60	74	73	102
Planters Electric Member Corp	Cooperative	0	0	*	*
Randolph Electric Member Corp	Cooperative	0	*	*	*
Rayle Electric Membership Corp	Cooperative	*	*	*	*
Reedy Creek Improvement Dist	Publicly Owned	—	5	6	6
Roanoke Electric Member Corp	Cooperative	*	0	0	0
Rock Hill City of	Publicly Owned	—	1	1	1
Rutherford Elec Member Corp	Cooperative	0	0	16	20
Satilla Rural Elec Member Corp	Cooperative	*	*	*	*
Savannah Electric & Power Co	Investor-Owned	—	1	11	48
Sawnee Electric Members Corp	Cooperative	*	1	1	2
Shelby City of	Publicly Owned	*	—	—	—
Shenandoah Valley Elec Coop	Cooperative	*	1	2	2
Singing River Elec Power Assn	Cooperative	*	2	3	3
South Carolina Electric&Gas Co	Investor-Owned	125	179	272	394
South Carolina Pub Serv Auth	Publicly Owned	20	24	31	63
South Mississippi El Pwr Assn	Cooperative	8	13	17	36
Snapping Shoals El Member Corp	Cooperative	*	0	0	0
Sumter Electric Coop Inc	Cooperative	16	17	18	22
Tallahassee City of	Publicly Owned	68	83	18	65
Tampa Electric Co	Investor-Owned	183	162	169	205
Tennessee Valley Authority	Federal	3,239	3,266	3,297	5,828
Thomasville City of	Publicly Owned	20	19	19	20
Tri-County Elec Member Corp	Cooperative	*	—	—	—
Tri-County Elec Member Corp	Cooperative	0	*	*	*
Troup Electric Members Corp	Cooperative	2	0	0	0
Virginia Electric & Power Co	Investor-Owned	136	160	184	229
Wake Electric Membership Corp	Cooperative	2	3	3	3
Walton Electric Member Corp	Cooperative	*	*	*	1
Withlacoochee River Elec Coop	Cooperative	1	2	*	*
York Electric Coop Inc	Cooperative	*	1	1	1
Brunswick Electric Member Corp	Cooperative	*	*	*	*
Colquitt Electric Members Corp	Cooperative	1	2	1	1
Central Electric Pwr Coop Inc	Cooperative	36	14	18	32
SERC Total		10,492	11,264	11,685	17,536
SPP					
Altus City of	Publicly Owned	*	—	—	—
Arkansas Power & Light Co	Investor-Owned	0	0	12	49
Central Rural Electric Coop	Cooperative	2	2	2	3
Craighead Electric Coop Corp	Cooperative	*	*	*	*
Duncan City of	Publicly Owned	*	0	0	0
First Electric Coop Corp	Cooperative	5	4	4	4
Gulf States Utilities Co	Investor-Owned	20	21	21	30
Independence City of	Publicly Owned	1	2	2	4
Kansas Electric Power Coop Inc	Cooperative	1	2	2	2
Kansas City City of	Publicly Owned	22	—	—	—
North Arkansas Elec Coop Inc	Cooperative	*	*	*	*
Northeast Louisiana Power Coop	Cooperative	—	-5	6	6
Oklahoma Gas & Electric Co	Investor-Owned	116	124	124	124
Ozark Electric Coop Inc	Cooperative	7	7	9	15
People's Electric Coop	Cooperative	*	—	—	—
Petit Jean Electric Coop Corp	Cooperative	*	*	*	*
Public Service Co of Oklahoma	Investor-Owned	0	0	10	67
Red River Valley Rrl Elec Assn	Cooperative	8	10	10	11
South Central Ark El Coop Inc	Cooperative	—	*	2	3
South Plains Electric Coop Inc	Cooperative	45	46	70	90
Southwestern Electric Power Co	Investor-Owned	21	22	25	31
Southwestern Public Service Co	Investor-Owned	23	129	159	255
SPP Total		273	365	458	695

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
WSCC(U.S.)					
Alameda City of	Publicly Owned	3	6	8	9
Anaheim City of	Publicly Owned	2	*	*	*
Arizona Electric Pwr Coop Inc	Cooperative	0	2	7	20
Arizona Public Service Co	Investor-Owned	467	493	567	871
Ashland City of	Publicly Owned	*	0	0	0
PUD No 1 of Benton County	Publicly Owned	29	—	—	—
Bonneville Power Admin	Federal	3,583	3,685	5,441	11,842
Bountiful City City of	Publicly Owned	*	*	*	1
PUD No 1 of Chelan County	Publicly Owned	17	0	35	35
El Paso Electric Co	Investor-Owned	12	32	37	77
Eugene City of	Publicly Owned	134	—	—	—
Forest Grove City of	Publicly Owned	3	0	0	0
Idaho Power Co	Investor-Owned	80	87	148	382
Imperial Irrigation District	Publicly Owned	21	48	126	143
PUD No 1 of Lewis County	Publicly Owned	1	—	—	—
Logan City of	Publicly Owned	*	—	—	—
Longmont City of	Publicly Owned	27	33	8	9
Los Angeles City of	Publicly Owned	43	210	248	420
Loveland City of	Publicly Owned	*	*	*	1
Modesto Irrigation District	Publicly Owned	2	5	3	5
Montana Power Co	Investor-Owned	59	118	171	537
Navopache Electric Coop Inc	Cooperative	1	2	2	2
Nevada Power Co	Investor-Owned	131	150	174	298
Overton Power District No 5	Publicly Owned	—	*	*	*
Pacific Gas & Electric Co	Investor-Owned	1,352	1,610	2,150	2,054
PacifiCorp	Investor-Owned	263	678	420	629
Palo Alto City of	Publicly Owned	10	10	10	25
Pasadena City of	Publicly Owned	4	7	11	19
PUD No 2 of Grant County	Publicly Owned	23	—	—	—
Port Angeles City of	Publicly Owned	9	—	—	—
Portland General Electric Co	Investor-Owned	150	313	175	158
Public Service Co of Colorado	Investor-Owned	78	1,071	263	804
Puget Sound Power & Light Co	Investor-Owned	1,230	1,490	1,712	2,238
Redding City of	Publicly Owned	1	83	92	130
Riverside City of	Publicly Owned	9	10	11	13
Roseville City of	Publicly Owned	*	1	1	2
Sacramento Municipal Util Dist	Publicly Owned	173	269	416	897
Salem Electric Coop	Cooperative	9	—	—	—
Salt River Proj Ag I & P Dist	Publicly Owned	31	41	26	160
San Diego Gas & Electric Co	Investor-Owned	118	134	132	120
Santa Clara City of	Publicly Owned	0	50	50	50
Seattle City of	Publicly Owned	279	334	430	707
Sierra Pacific Power Co	Investor-Owned	23	152	177	283
PUD No 1 of Snohomish County	Publicly Owned	210	—	—	—
Southern California Edison Co	Investor-Owned	5,411	6,113	6,477	8,565
Springfield City of	Publicly Owned	7	54	7	10
Sulphur Springs Valley E C Inc	Cooperative	*	*	1	2
Tacoma City of	Publicly Owned	165	183	223	380
Trico Electric Coop Inc	Cooperative	—	*	0	0
Turlock Irrigation District	Publicly Owned	4	5	10	19
Black Hills Corp	Investor-Owned	3	4	6	8
Vera Irrigation District #5	Publicly Owned	1	1	0	0
Vernon City of	Publicly Owned	24	23	22	23
Washington Water Power Co	Investor-Owned	234	391	488	634
Yellowstone Vily Elec Coop Inc	Cooperative	4	5	6	11
Tucson Electric Power Co	Investor-Owned	19	47	72	167
Columbia River Peoples Ut Dist	Publicly Owned	1	—	—	—
Northern California Power Agny	Publicly Owned	29	—	—	—
WSCC(U.S.) Total		14,491	17,954	20,364	32,759
Contiguous U.S.		35,554	45,275	52,632	88,673
ASCC					
Alaska Electric Light&Power Co	Investor-Owned	*	*	*	*
Golden Valley Elec Assn Inc	Cooperative	*	2	5	15
ASCC Total		*	2	5	15

See footnotes at end of table.

Table 9. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994 and 1998
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Savings		Projected Savings	
		1992	1993	1994	1998
Hawaii					
Hawaii Electric Light Co Inc	Investor-Owned	—	2	5	57
Maui Electric Co Ltd	Investor-Owned	5	5	3	47
Hawaiian Electric Co Inc	Investor-Owned	4	10	11	186
Hawaii Total		9	17	18	290
U.S. Total		35,563	45,294	52,655	88,978

• Value less than 0.5.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Million Kilowatthours)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
ECAR			
Appalachian Power Co	40	*	40
Cincinnati Gas & Electric Co	6	0	6
Cleveland Electric Illum Co	18	1	19
Columbus Southern Power Co	11	15	26
Consumers Power Co	237	43	280
Crawfordsville Elec Lgt&Pwr Co	*	0	*
Dayton Power & Light Co	90	0	90
Detroit Edison Co	148	*	149
East Kentucky Power Coop Inc	7	-8	-1
Indianapolis Power & Light Co	1	40	41
Indiana Michigan Power Co	4	1	4
Kentucky Utilities Co	37	0	37
Kingsport Power Co	4	0	4
Louisville Gas & Electric Co	0	16	16
Monongahela Power Co	217	0	217
Ohio Edison Co	60	*	61
Ohio Power Co	7	12	18
Owen Electric Coop Inc	1	0	1
Potomac Edison Co	314	0	314
PSI Energy Inc	141	*	141
Southern Indiana Gas & Elec Co	13	3	16
Toledo Edison Co	14	2	16
Utilities Dist-Western IN REMC	11	1	12
Virginia Tech Electric Service	0	*	*
West Penn Power Co	263	0	263
Wheeling Power Co	1	0	1
Kentucky Power Co	6	*	6
American Mun Power-Ohio Inc	0	*	*
ECAR Total	1,651	127	1,779
ERCOT			
Austin City of	448	*	448
Brazos Electric Power Coop Inc	6	0	6
Bryan City of	8	*	8
Central Power & Light Co	130	56	185
Georgetown City of	1	0	1
Greenville Electric Util Sys	0	*	*
Houston Lighting & Power Co	133	-3	130
Johnson County Elec Coop Assn	4	0	4
Lower Colorado River Authority	105	0	105
Magic Valley Electric Coop Inc	2	0	2
San Bernard Electric Coop Inc	*	0	*
Tri-County Electric Coop Inc	1	0	1
West Texas Utilities Co	21	41	62
San Marcos City of	11	*	11
Texas-New Mexico Power Co	39	66	105
Texas Utilities Electric Co	1,221	0	1,221
ERCOT Total	2,128	160	2,288
MAAC			
A & N Electric Coop	1	0	1
Atlantic City Electric Co	63	2	65
Baltimore Gas & Electric Co	190	0	190
Conowingo Power Co	2	2	4
Delmarva Power & Light Co	46	0	46
Easton Utilities Comm	*	0	*
Jersey Central Power&Light Co	83	24	106
Metropolitan Edison Co	56	26	81
Pennsylvania Electric Co	75	0	75
Pennsylvania Power & Light Co	29	*	29
Philadelphia Electric Co	30	30	60
Potomac Electric Power Co	309	123	431
Public Service Electric&Gas Co	57	0	57
Southern Maryland El Coop Inc	4	0	4
UGI Utilities Inc	*	0	*

See footnotes at end of table.

Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
MAAC			
Adams Electric Coop Inc	1	0	1
Bedford Rural Elec Coop Inc	0	*	*
MAAC Total	944	206	1,150
MAIN			
Central Illinois Light Co	0	*	*
Coles-Moultrie Electric Coop	0	*	*
Columbia City of	4	0	4
Commonwealth Edison Co	1	1	2
Eastern Illini Electric Coop	1	2	3
Illinois Power Co	34	0	34
Madison Gas & Electric Co	90	0	90
Manitowoc Public Utilities	9	0	9
Marshfield City of	2	0	2
Southeastern IL Elec Coop Inc	0	124	124
Southwestern Electric Coop Inc	1	28	29
Springfield City of	6	0	6
Wisconsin Electric Power Co	1,272	14	1,286
Wisconsin Power & Light Co	197	0	197
Wisconsin Public Power Inc Sys	16	0	16
Wisconsin Public Service Corp	322	1	322
MAIN Total	1,955	170	2,125
MAPP(U.S.)			
Ames City of	1	0	1
Austin City of	*	*	*
Barron Electric Coop	*	0	*
Beatrice City of	0	*	*
Cedar Falls City of	19	0	19
Central Iowa Power Coop	7	41	48
Central Power Elec Coop Inc	0	*	*
Clark Electric Coop	*	0	*
Coop Power Assn	10	0	10
Cornhusker Public Power Dist	0	*	*
Fairmont Public Utilities Comm	*	1	1
Freeborn-Mower Electric Coop	*	0	*
Grant-Lafayette Electric Coop	*	*	1
IES Utilities Inc	29	-9	21
Interstate Power Co	34	0	34
Iowa Lakes Electric Coop	4	33	38
Lincoln Electric System	14	0	14
Marshall City of	0	*	*
Nodak Electric Coop Inc	0	2	2
Midland Power Coop	*	6	6
Minnesota Power & Light Co	27	0	27
Minnkota Power Coop Inc	0	7	7
Moorhead City of	*	*	*
Muscatine City of	2	0	2
North Platte City of	0	*	*
Northern States Power Co	41	45	86
Northern States Power Co	996	13	1,009
Northwest Iowa Power Coop	6	0	6
Oakdale Electric Coop	*	0	*
Omaha Public Power District	1	0	1
Otter Tail Power Co	18	20	38
Owatonna City of	0	1	1
People's Coop Power Assn	*	0	*
Pella City of	2	0	2
Rochester Public Utilities	*	*	*
Runestone Electric Assn	1	*	2
Shakopee Public Utilities Comm	0	*	*
Superior Water Light&Power Co	2	*	2
Tri-County Electric Coop	*	0	*
United Power Assn	7	17	23
Verendrye Electric Coop Inc	*	0	*
Vernon Electric Coop	*	0	*

See footnotes at end of table.

**Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by DSM Program Category, 1993**
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
MAPP(U.S.)			
Mountrail-Williams El Coop Inc	1	13	14
Wild Rice Electric Coop Inc	0	56	56
Municipal Energy Agency of NE	1	*	1
Midwest Power Systems Inc	104	2	105
Cass County Electric Coop Inc	*	2	2
MAPP(U.S.) Total	1,329	252	1,581
NPCC(U.S.)			
Bangor Hydro-Electric Co	38	0	38
Blackstone Valley Electric Co	61	0	61
Boston Edison Co	382	*	382
Braintree Town of	0	*	*
Burlington City of	9	0	9
Cambridge Electric Light Co	71	*	71
Central Hudson Gas & Elec Corp	97	*	97
Central Maine Power Co	390	0	390
Central Vermont Pub Serv Corp	41	0	41
Chicopee City of	4	0	4
Citizens Utilities Co	2	0	2
Commonwealth Electric Co	120	*	121
Concord Electric Co	1	0	1
Connecticut Light & Power Co	1,159	1	1,160
Connecticut Valley Elec Co Inc	2	0	2
Consolidated Edison Co-NY Inc	496	2	498
Eastern Edison Co	94	0	94
Exeter & Hampton Electric Co	1	0	1
Fitchburg Gas & Elec Light Co	8	0	8
Green Mountain Power Corp	30	0	30
Holyoke City of	*	0	*
Hingham City of	*	4	4
Jamestown City of	*	0	*
Littleton Town of	*	0	*
Long Island Lighting Co	580	1	580
Maine Public Service Co	5	*	5
Massachusetts Electric Co	549	0	549
Massena Town of	1	0	1
Montaup Electric Co	170	0	170
Narragansett Electric Co	181	0	181
New Hampshire Elec Coop Inc	7	*	7
New York State Elec & Gas Corp	695	0	695
Newport Electric Corp	15	0	15
Niagara Mohawk Power Corp	737	0	737
Norwood City of	1	0	1
Orange & Rockland Utils Inc	164	3	167
Power Authority of State of NY	81	0	81
Public Service Co of NH	1	0	1
Reading Town of	*	*	*
Rochester Gas & Electric Corp	182	1	183
Shrewsbury Town of	1	0	1
Taunton City of	16	0	16
United Illuminating Co	129	8	137
Omya Inc	*	0	*
Western Massachusetts Elec Co	202	*	202
Granite State Electric Co	28	0	28
NPCC(U.S.) Total	6,749	20	6,769
SERC			
Aiken Electric Coop Inc	0	1	1
Alabama Electric Coop Inc	21	2	24
Alabama Power Co	468	-19	449
Albemarle City of	0	*	*
Altamaha Electric Member Corp	*	*	*
Amicalola Electric Member Corp	*	*	*
BARC Electric Coop Inc	0	*	*
Berkeley Electric Coop Inc	4	*	4
Black River Electric Coop Inc	2	0	2
Canoochee Electric Member Corp	0	*	*
Carolina Power & Light Co	2,062	0	2,062

See footnotes at end of table.

Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
SERC			
Carroll Electric Member Corp	*	1	1
Central Georgia El Member Corp	2	0	2
Central Electric Member Corp	*	*	*
Coast Electric Power Assn	0	*	*
Coastal Electric Member Corp	1	0	1
Cobb Electric Membership Corp	16	0	16
Community Electric Coop	0	*	*
Coweta-Fayette El Member Corp	56	1	57
Crescent Electric Member Corp	0	1	1
Douglas City of	*	1	1
Duke Power Co	74	0	74
Excelsior Electric Member Corp	*	0	*
Fairfield Electric Coop Inc	*	*	*
Fayetteville Public Works Comm	*	0	*
Fitzgerald Wtr Lgt & Bond Comm	0	*	*
Flint Electric Membership Corp	*	4	4
Florida Keys El Coop Assn Inc	0	*	*
Florida Power & Light Co	2,726	13	2,738
Florida Power Corp	510	479	989
Fort Pierce Utilities Auth	1	0	1
Four County Elec Member Corp	1	0	1
Gainesville Regional Utilities	43	22	65
Georgia Power Co	134	0	134
Grady County Elec Member Corp	*	*	*
Greenville Utilities Comm	14	0	14
Gulf Power Co	418	0	418
Haywood Electric Member Corp	*	*	*
Jackson Electric Member Corp	10	1	11
Jacksonville Electric Auth	108	0	108
Jefferson Electric Member Corp	*	*	*
Jones-Onslow Elec Member Corp	0	2	2
Kissimmee Utility Authority	2	1	4
Lakeland City of	1	*	1
Laurens Electric Coop Inc	*	*	*
Laurinburg City of	0	*	*
Lawrenceville City of	0	*	*
Lee County Electric Coop Inc	21	0	21
Leesburg City of	0	*	*
Lumbree River Elec Member Corp	0	2	2
Lumberton City of	0	*	*
Lynches River Elec Coop Inc	0	1	1
Manassas City of	0	3	3
Marietta City of	0	2	2
Mecklenburg Electric Coop Inc	0	6	6
Mid-Carolina Electric Coop Inc	0	2	2
Mississippi Power Co	1	0	1
Mitchell Electric Member Corp	0	*	*
Monroe City of	0	*	*
New Bern City of	0	*	*
Northern Virginia Elec Coop	*	*	1
Northern Neck Elec Coop Inc	0	*	*
Ocala City of	9	*	9
Orangeburg City of	0	*	*
Palmetto Electric Coop Inc	1	*	1
Orlando Utilities Comm	74	0	74
Randolph Electric Member Corp	0	*	*
Rayle Electric Membership Corp	*	0	*
Reedy Creek Improvement Dist	4	1	5
Rock Hill City of	0	1	1
Satilla Rural Elec Member Corp	*	*	*
Savannah Electric & Power Co	1	0	1
Sawnee Electric Members Corp	1	0	1
Shenandoah Valley Elec Coop	0	1	1
Singing River Elec Power Assn	2	*	2
South Carolina Electric & Gas Co	153	26	179
South Carolina Pub Serv Auth	24	0	24
South Mississippi El Pwr Assn	13	0	13
Sumter Electric Coop Inc	17	*	17

See footnotes at end of table.

Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
SERC			
Tallahassee City of	42	41	83
Tampa Electric Co	161	1	162
Tennessee Valley Authority	3,266	0	3,266
Thomasville City of	*	19	19
Tri-County Elec Member Corp	0	*	*
Virginia Electric & Power Co	135	25	160
Wake Electric Membership Corp	*	3	3
Walton Electric Member Corp	*	*	*
Withlacoochee River Elec Coop	2	*	2
York Electric Coop Inc	*	*	1
Brunswick Electric Member Corp	*	*	*
Colquitt Electric Members Corp	0	2	2
Central Electric Pwr Coop Inc	0	14	14
SERC Total	10,600	664	11,264
SPP			
Central Rural Electric Coop	2	0	2
Craighead Electric Coop Corp	0	*	*
First Electric Coop Corp	3	1	4
Gulf States Utilities Co	21	0	21
Independence City of	2	0	2
Kansas Electric Power Coop Inc	0	2	2
North Arkansas Elec Coop Inc	0	*	*
Northeast Louisiana Power Coop	0	-5	-5
Oklahoma Gas & Electric Co	124	0	124
Ozark Electric Coop Inc	7	0	7
Petit Jean Electric Coop Corp	0	*	*
Red River Valley Rrl Elec Assn	2	8	10
South Central Ark El Coop Inc	0	*	*
South Plains Electric Coop Inc	7	40	46
Southwestern Electric Power Co	22	0	22
Southwestern Public Service Co	129	0	129
SPP Total	319	47	365
WSCC(U.S.)			
Alameda City of	6	0	6
Anaheim City of	*	*	*
Arizona Electric Pwr Coop Inc	2	0	2
Arizona Public Service Co	493	0	493
Bonneville Power Admin	2,493	1,192	3,685
Bountiful City City of	*	*	*
El Paso Electric Co	30	2	32
Idaho Power Co	87	0	87
Imperial Irrigation District	9	40	48
Longmont City of	4	29	33
Los Angeles City of	210	0	210
Loveland City of	*	0	*
Modesto Irrigation District	5	0	5
Montana Power Co	118	0	118
Navopache Electric Coop Inc	*	2	2
Nevada Power Co	148	2	150
Overton Power District No 5	*	0	*
Pacific Gas & Electric Co	1,610	0	1,610
PacifiCorp	408	270	678
Palo Alto City of	10	0	10
Pasadena City of	7	0	7
Portland General Electric Co	313	0	313
Public Service Co of Colorado	165	906	1,071
Puget Sound Power & Light Co	1,490	0	1,490
Redding City of	82	1	83
Riverside City of	8	2	10
Roseville City of	1	0	1
Sacramento Municipal Util Dist	269	0	269
Salt River Proj Ag I & P Dist	41	0	41
San Diego Gas & Electric Co	132	3	134
Santa Clara City of	0	50	50
Seattle City of	334	0	334
Sierra Pacific Power Co	152	0	152

See footnotes at end of table.

Table 10. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Load Management ¹	Total DSM Programs
WSCC(U.S.)			
Southern California Edison Co	6,113	0	6,113
Springfield City of	54	*	54
Sulphur Springs Valley E C Inc	*	*	*
Tacoma City of	183	0	183
Trico Electric Coop Inc	0	*	*
Turlock Irrigation District	5	0	5
Black Hills Corp	4	0	4
Vera Irrigation District #15	*	1	1
Vernon City of	0	23	23
Washington Water Power Co	391	0	391
Yellowstone Vily Elec Coop Inc	0	5	5
Tucson Electric Power Co	47	0	47
WSCC(U.S.) Total	15,425	2,528	17,954
Contiguous U.S.	41,100	4,175	45,275
ASCC			
Alaska Electric Light&Power Co	0	*	*
Golden Valley Elec Assn Inc	2	0	2
ASCC Total	2	*	2
Hawaii			
Hawaii Electric Light Co Inc	2	0	2
Maui Electric Co Ltd	5	0	5
Hawaiian Electric Co Inc	10	0	10
Hawaii Total	17	0	17
U.S. Total	41,119	4,175	45,294

¹ Load management includes the following DSM program categories: direct load control, interruptible load, other load management, other demand-side management.

* Value less than 0.5.

Notes: *Data are final. *Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours. *Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993
(Million Kilowatthours)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
ECAR						
Appalachian Power Co	Investor-Owned	40	0	*	0	40
Cincinnati Gas & Electric Co	Investor-Owned	*	6	*	0	6
Cleveland Electric Illum Co	Investor-Owned	9	4	7	0	19
Columbus Southern Power Co	Investor-Owned	26	0	*	0	26
Consumers Power Co	Investor-Owned	94	93	93	0	280
Crawfordsville Elec Lgt&Pwr Co	Publicly Owned	*	0	0	*	*
Dayton Power & Light Co	Investor-Owned	43	20	27	0	90
Detroit Edison Co	Investor-Owned	82	34	32	0	149
East Kentucky Power Coop Inc	Cooperative	-1	0	0	0	-1
Indianapolis Power & Light Co	Investor-Owned	1	12	28	0	41
Indiana Michigan Power Co	Investor-Owned	4	0	*	0	4
Kentucky Utilities Co	Investor-Owned	37	0	0	0	37
Kingsport Power Co	Investor-Owned	4	0	0	0	4
Louisville Gas & Electric Co	Investor-Owned	0	0	16	0	16
Monongahela Power Co	Investor-Owned	68	60	89	0	217
Ohio Edison Co	Investor-Owned	30	13	18	0	61
Ohio Power Co	Investor-Owned	18	0	*	0	18
Owen Electric Coop Inc	Cooperative	*	*	*	0	1
Potomac Edison Co	Investor-Owned	165	78	71	0	314
PSI Energy Inc	Investor-Owned	56	46	40	0	141
Southern Indiana Gas & Elec Co	Investor-Owned	4	4	9	0	16
Toledo Edison Co	Investor-Owned	5	7	4	0	16
Utilities Dist-Western IN REMC	Cooperative	5	2	4	0	12
Virginia Tech Electric Service	Publicly Owned	*	*	*	*	*
West Penn Power Co	Investor-Owned	33	82	148	0	263
Wheeling Power Co	Investor-Owned	1	0	0	0	1
Kentucky Power Co	Investor-Owned	6	0	*	0	6
American Mun Power-Ohio Inc	Publicly Owned	0	0	*	*	*
ECAR Total		729	462	587	*	1,779
ERCOT						
Austin City of	Publicly Owned	229	219	0	0	448
Brazos Electric Power Coop Inc	Cooperative	6	0	0	0	6
Bryan City of	Publicly Owned	8	*	0	0	8
Central Power & Light Co	Investor-Owned	71	115	0	0	185
Georgetown City of	Publicly Owned	1	*	0	0	1
Greenville Electric Util Sys	Publicly Owned	0	0	*	0	*
Houston Lighting & Power Co	Investor-Owned	43	79	8	0	130
Johnson County Elec Coop Assn	Cooperative	4	0	0	0	4
Lower Colorado River Authority	Publicly Owned	97	8	0	0	105
Magic Valley Electric Coop Inc	Cooperative	1	0	0	1	2
San Bernard Electric Coop Inc	Cooperative	*	0	0	0	*
Tri-County Electric Coop Inc	Cooperative	1	0	0	0	1
West Texas Utilities Co	Investor-Owned	22	3	37	0	62
San Marcos City of	Publicly Owned	9	2	0	0	11
Texas-New Mexico Power Co	Investor-Owned	38	1	66	0	105
Texas Utilities Electric Co	Investor-Owned	983	238	0	0	1,221
ERCOT Total		1,511	665	111	1	2,288
MAAC						
A & N Electric Coop	Cooperative	1	0	0	0	1
Atlantic City Electric Co	Investor-Owned	43	15	1	6	65
Baltimore Gas & Electric Co	Investor-Owned	23	165	2	0	190
Conowingo Power Co	Investor-Owned	4	0	0	0	4
Delmarva Power & Light Co	Investor-Owned	3	43	0	0	46
Easton Utilities Comm	Publicly Owned	*	0	0	0	*
Jersey Central Power&Light Co	Investor-Owned	38	34	34	0	106
Metropolitan Edison Co	Investor-Owned	62	5	14	0	81
Pennsylvania Electric Co	Investor-Owned	23	23	30	0	75
Pennsylvania Power & Light Co	Investor-Owned	24	4	1	*	29
Philadelphia Electric Co	Investor-Owned	60	*	0	0	60
Potomac Electric Power Co	Investor-Owned	33	398	0	0	431
Public Service Electric&Gas Co	Investor-Owned	3	43	10	0	57
Southern Maryland El Coop Inc	Cooperative	4	0	0	0	4
UGI Utilities Inc	Investor-Owned	*	0	0	0	*
Adams Electric Coop Inc	Cooperative	0	0	0	1	1
Bedford Rural Elec Coop Inc	Cooperative	*	0	0	0	*
MAAC Total		321	730	93	7	1,150

See footnotes at end of table.

**Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by Class of Ownership and Sector, 1993**
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
MAIN						
Central Illinois Light Co	Investor-Owned	*	0	0	0	*
Coles-Moultrie Electric Coop	Cooperative	0	0	*	0	*
Columbia City of	Publicly Owned	2	2	0	0	4
Commonwealth Edison Co	Investor-Owned	1	1	*	0	2
Eastern Illini Electric Coop	Cooperative	3	0	*	0	3
Illinois Power Co	Investor-Owned	0	33	1	0	34
Madison Gas & Electric Co	Investor-Owned	14	63	0	12	90
Manitowoc Public Utilities	Publicly Owned	3	3	3	0	9
Marshfield City of	Publicly Owned	*	2	1	*	2
Southeastern IL Elec Coop Inc	Cooperative	124	0	0	0	124
Southwestern Electric Coop Inc	Cooperative	23	5	1	0	29
Springfield City of	Publicly Owned	3	3	0	0	6
Wisconsin Electric Power Co	Investor-Owned	383	617	285	0	1,286
Wisconsin Power & Light Co	Investor-Owned	19	167	12	0	197
Wisconsin Public Power Inc Sys	Publicly Owned	4	5	6	1	16
Wisconsin Public Service Corp	Investor-Owned	100	206	0	16	322
MAIN Total		680	1,108	308	29	2,125
MAPP(U.S.)						
Ames City of	Publicly Owned	0	0	0	1	1
Austin City of	Publicly Owned	*	*	*	0	*
Barron Electric Coop	Cooperative	*	0	0	*	*
Beatrice City of	Publicly Owned	*	*	0	0	*
Cedar Falls City of	Publicly Owned	19	*	*	0	19
Central Iowa Power Coop	Cooperative	47	1	0	0	48
Central Power Elec Coop Inc	Cooperative	0	*	0	0	*
Clark Electric Coop	Cooperative	*	0	0	*	*
Coop Power Assn	Cooperative	*	10	0	0	10
Cornhusker Public Power Dist	Publicly Owned	0	0	*	0	*
Fairmont Public Utilities Comm	Publicly Owned	0	1	0	0	1
Freeborn-Mower Electric Coop	Cooperative	*	0	*	0	*
Grant-Lafayette Electric Coop	Cooperative	*	0	*	0	1
IES Utilities Inc	Investor-Owned	-1	17	5	0	21
Interstate Power Co	Investor-Owned	2	6	20	6	34
Iowa Lakes Electric Coop	Cooperative	4	20	13	*	38
Lincoln Electric System	Publicly Owned	*	2	0	12	14
Marshall City of	Publicly Owned	*	*	*	0	*
Nodak Electric Coop Inc	Cooperative	1	*	*	*	2
Midland Power Coop	Cooperative	*	6	0	0	6
Minnesota Power & Light Co	Investor-Owned	2	3	21	0	27
Minnkota Power Coop Inc	Cooperative	7	1	0	0	7
Moorhead City of	Publicly Owned	*	*	*	0	*
Muscatine City of	Publicly Owned	1	1	0	*	2
North Platte City of	Publicly Owned	0	0	0	*	*
Northern States Power Co	Investor-Owned	24	61	0	0	86
Northern States Power Co	Investor-Owned	118	483	408	0	1,009
Northwest Iowa Power Coop	Cooperative	6	*	0	0	6
Oakdale Electric Coop	Cooperative	*	0	0	0	*
Omaha Public Power District	Publicly Owned	1	0	0	0	1
Otter Tail Power Co	Investor-Owned	4	6	28	0	38
Owatonna City of	Publicly Owned	*	*	1	0	1
People's Coop Power Assn	Cooperative	*	0	0	*	*
Pella City of	Publicly Owned	*	1	1	0	2
Rochester Public Utilities	Publicly Owned	*	*	*	*	*
Runestone Electric Assn	Cooperative	1	0	*	0	2
Shakopee Public Utilities Comm	Publicly Owned	0	*	0	0	*
Superior Water Light&Power Co	Investor-Owned	*	2	0	0	2
Tri-County Electric Coop	Cooperative	*	0	0	*	*
United Power Assn	Cooperative	23	0	0	0	23
Verendrye Electric Coop Inc	Cooperative	*	*	0	0	*
Vernon Electric Coop	Cooperative	*	0	0	0	*
Mountrail-Williams El Coop Inc	Cooperative	14	0	0	0	14
Wild Rice Electric Coop Inc	Cooperative	54	2	0	0	56
Municipal Energy Agency of NE	Publicly Owned	*	*	*	0	1
Midwest Power Systems Inc	Investor-Owned	16	86	4	0	105
Cass County Electric Coop Inc	Cooperative	2	*	*	0	2
MAPP(U.S.) Total		349	711	502	19	1,581

See footnotes at end of table.

**Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by Class of Ownership and Sector, 1993**
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
NPCC(U.S.)						
Bangor Hydro-Electric Co	Investor-Owned	27	8	3	0	38
Blackstone Valley Electric Co	Investor-Owned	9	31	21	0	61
Boston Edison Co	Investor-Owned	107	206	51	17	382
Braintree Town of	Publicly Owned	*	*	*	0	*
Burlington City of	Publicly Owned	4	1	4	0	9
Cambridge Electric Light Co	Investor-Owned	*	18	53	0	71
Central Hudson Gas & Elec Corp	Investor-Owned	7	73	18	0	97
Central Maine Power Co	Investor-Owned	133	201	57	0	390
Central Vermont Pub Serv Corp	Investor-Owned	14	14	12	0	41
Chicopee City of	Publicly Owned	*	3	2	0	4
Citizens Utilities Co	Investor-Owned	2	0	0	0	2
Commonwealth Electric Co	Investor-Owned	10	111	*	0	121
Concord Electric Co	Investor-Owned	1	*	*	0	1
Connecticut Light & Power Co	Investor-Owned	295	734	124	8	1,160
Connecticut Valley Elec Co Inc	Investor-Owned	*	1	*	0	2
Consolidated Edison Co-NY Inc	Investor-Owned	86	413	0	0	498
Eastern Edison Co	Investor-Owned	32	55	8	0	94
Exeter & Hampton Electric Co	Investor-Owned	1	*	*	0	1
Fitchburg Gas & Elec Light Co	Investor-Owned	*	3	5	0	8
Green Mountain Power Corp	Investor-Owned	5	25	0	0	30
Holyoke City of	Publicly Owned	*	0	0	0	*
Hingham City of	Publicly Owned	4	*	*	0	4
Jamestown City of	Publicly Owned	*	*	*	*	*
Littletown of	Publicly Owned	*	0	0	0	*
Long Island Lighting Co	Investor-Owned	129	451	0	0	580
Maine Public Service Co	Investor-Owned	2	2	0	1	5
Massachusetts Electric Co	Investor-Owned	67	424	58	0	549
Massena Town of	Publicly Owned	0	0	0	1	1
Montaup Electric Co	Investor-Owned	48	93	29	0	170
Narragansett Electric Co	Investor-Owned	20	142	19	0	181
New Hampshire Elec Coop Inc	Cooperative	5	2	0	0	7
New York State Elec & Gas Corp	Investor-Owned	175	519	0	0	695
Newport Electric Corp	Investor-Owned	7	7	*	0	15
Niagara Mohawk Power Corp	Investor-Owned	191	467	80	0	737
Norwood City of	Publicly Owned	*	*	1	0	1
Orange & Rockland Utils Inc	Investor-Owned	75	92	0	0	167
Power Authority of State of NY	Publicly Owned	25	56	0	0	81
Public Service Co of NH	Investor-Owned	1	*	0	0	1
Reading Town of	Publicly Owned	*	*	0	0	*
Rochester Gas & Electric Corp	Investor-Owned	39	57	86	0	183
Shrewsbury Town of	Publicly Owned	1	0	0	*	1
Taunton City of	Publicly Owned	*	16	0	0	16
United Illuminating Co	Investor-Owned	55	63	16	2	137
Omya Inc	Investor-Owned	*	0	0	0	*
Western Massachusetts Elec Co	Investor-Owned	62	111	24	5	202
Granite State Electric Co	Investor-Owned	4	21	3	0	28
NPCC(U.S.) Total		1,643	4,417	675	34	6,769
SERC						
Aiken Electric Coop Inc	Cooperative	1	0	0	0	1
Alabama Electric Coop Inc	Cooperative	24	0	0	0	24
Alabama Power Co	Investor-Owned	468	-19	0	0	449
Albemarle City of	Publicly Owned	0	0	*	0	*
Altamaha Electric Member Corp	Cooperative	*	*	0	*	*
Amicalola Electric Member Corp	Cooperative	*	0	0	0	*
BARC Electric Coop Inc	Cooperative	*	0	0	0	*
Berkeley Electric Coop Inc	Cooperative	4	0	0	0	4
Black River Electric Coop Inc	Cooperative	2	0	0	0	2
Canoochee Electric Member Corp	Cooperative	*	0	0	*	*
Carolina Power & Light Co	Investor-Owned	776	392	894	0	2,062
Carroll Electric Member Corp	Cooperative	*	*	*	*	1
Central Georgia El Member Corp	Cooperative	2	0	0	0	2
Central Electric Member Corp	Cooperative	*	0	*	0	*
Coast Electric Power Assn	Cooperative	*	*	0	0	*
Coastal Electric Member Corp	Cooperative	1	0	0	0	1
Cobb Electric Membership Corp	Cooperative	16	0	0	0	16
Community Electric Coop	Cooperative	*	0	0	0	*
Coweta-Fayette El Member Corp	Cooperative	57	0	0	0	57

See footnotes at end of table.

**Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by Class of Ownership and Sector, 1993
(Million Kilowatthours) (Continued)**

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
SERC (Continued)						
Crescent Electric Member Corp	Cooperative	1	*	*	*	1
Douglas City of	Publicly Owned	*	*	*	0	1
Duke Power Co	Investor-Owned	52	22	0	0	74
Excelsior Electric Member Corp	Cooperative	*	0	0	0	*
Fairfield Electric Coop Inc	Cooperative	*	*	0	0	*
Fayetteville Public Works Comm	Publicly Owned	*	0	0	0	*
Fitzgerald Wtr Lgt & Bond Comm	Publicly Owned	*	0	0	0	*
Flint Electric Membership Corp	Cooperative	3	1	*	1	4
Florida Keys El Coop Assn Inc	Cooperative	*	*	*	0	*
Florida Power & Light Co	Investor-Owned	1,743	995	0	0	2,738
Florida Power Corp	Investor-Owned	181	115	657	36	989
Fort Pierce Utilities Auth	Publicly Owned	1	0	0	0	1
Four County Elec Member Corp	Cooperative	1	0	0	0	1
Gainesville Regional Utilities	Publicly Owned	44	17	0	4	65
Georgia Power Co	Investor-Owned	83	43	8	0	134
Grady County Elec Member Corp	Cooperative	*	0	*	0	*
Greenville Utilities Comm	Publicly Owned	14	0	0	0	14
Gulf Power Co	Investor-Owned	213	197	0	8	418
Haywood Electric Member Corp	Cooperative	*	0	0	0	*
Jackson Electric Member Corp	Cooperative	11	*	*	0	11
Jacksonville Electric Auth	Publicly Owned	53	25	*	30	108
Jefferson Electric Member Corp	Cooperative	*	*	*	*	*
Jones-Onslow Elec Member Corp	Cooperative	1	*	*	0	2
Kissimmee Utility Authority	Publicly Owned	3	*	0	1	4
Lakeland City of	Publicly Owned	1	*	*	0	1
Laurens Electric Coop Inc	Cooperative	*	*	0	0	*
Laurinburg City of	Publicly Owned	*	*	0	0	*
Lawrenceville City of	Publicly Owned	*	*	0	*	*
Lee County Electric Coop Inc	Cooperative	19	2	0	0	21
Leesburg City of	Publicly Owned	*	*	*	0	*
Lumbee River Elec Member Corp	Cooperative	1	0	1	0	2
Lumberton City of	Publicly Owned	*	0	0	0	*
Lynches River Elec Coop Inc	Cooperative	1	0	0	0	1
Manassas City of	Publicly Owned	*	0	0	2	3
Marietta City of	Publicly Owned	2	*	0	0	2
Mecklenburg Electric Coop Inc	Cooperative	6	0	1	0	6
Mid-Carolina Electric Coop Inc	Cooperative	2	0	0	0	2
Mississippi Power Co	Investor-Owned	1	0	0	0	1
Mitchell Electric Member Corp	Cooperative	*	*	0	0	*
Monroe City of	Publicly Owned	*	0	*	0	*
New Bern City of	Publicly Owned	*	0	0	0	*
Northern Virginia Elec Coop	Cooperative	*	*	*	0	1
Northern Neck Elec Coop Inc	Cooperative	*	*	0	0	*
Ocala City of	Publicly Owned	5	4	0	0	9
Orangeburg City of	Publicly Owned	0	0	*	0	*
Palmetto Electric Coop Inc	Cooperative	1	*	0	0	1
Orlando Utilities Comm	Publicly Owned	70	4	0	0	74
Randolph Electric Member Corp	Cooperative	0	*	0	0	*
Rayle Electric Membership Corp	Cooperative	*	0	0	0	*
Reedy Creek Improvement Dist	Publicly Owned	0	5	0	0	5
Rock Hill City of	Publicly Owned	1	0	0	0	1
Satilla Rural Elec Member Corp	Cooperative	*	*	0	*	*
Savannah Electric & Power Co	Investor-Owned	1	0	0	0	1
Sawnee Electric Members Corp	Cooperative	1	0	0	0	1
Shenandoah Valley Elec Coop	Cooperative	1	0	0	0	1
Singing River Elec Power Assn	Cooperative	2	0	*	0	2
South Carolina Electric&Gas Co	Investor-Owned	115	25	39	0	179
South Carolina Pub Serv Auth	Publicly Owned	24	*	0	0	24
South Mississippi El Pwr Assn	Cooperative	13	0	0	0	13
Sumter Electric Coop Inc	Cooperative	14	4	0	0	17
Tallahassee City of	Publicly Owned	75	2	0	6	83
Tampa Electric Co	Investor-Owned	120	23	4	16	162
Tennessee Valley Authority	Federal	3,266	0	0	0	3,266
Thomasville City of	Publicly Owned	19	*	0	*	19
Tri-County Elec Member Corp	Cooperative	*	0	0	0	*
Virginia Electric & Power Co	Investor-Owned	42	97	10	11	160
Wake Electric Membership Corp	Cooperative	*	0	3	0	3
Walton Electric Member Corp	Cooperative	*	0	0	0	*

See footnotes at end of table.

**Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by Class of Ownership and Sector, 1993**
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
SERC (Continued)						
Withlacoochee River Elec Coop	Cooperative	2	0	0	0	2
York Electric Coop Inc	Cooperative	*	*	*	0	1
Brunswick Electric Member Corp	Cooperative	*	*	0	0	*
Colquitt Electric Members Corp	Cooperative	1	*	1	0	2
Central Electric Pwr Coop Inc	Cooperative	14	0	0	0	14
SERC Total		7,577	1,955	1,618	114	11,264
SPP						
Central Rural Electric Coop	Cooperative	2	0	0	0	2
Craighead Electric Coop Corp	Cooperative	*	0	*	0	*
First Electric Coop Corp	Cooperative	4	0	0	0	4
Gulf States Utilities Co	Investor-Owned	18	2	1	0	21
Independence City of	Publicly Owned	2	0	0	0	2
Kansas Electric Power Coop Inc	Cooperative	*	0	2	0	2
North Arkansas Elec Coop Inc	Cooperative	*	0	0	0	*
Northeast Louisiana Power Coop	Cooperative	0	-5	0	0	-5
Oklahoma Gas & Electric Co	Investor-Owned	124	0	0	0	124
Ozark Electric Coop Inc	Cooperative	7	0	0	0	7
Petit Jean Electric Coop Corp	Cooperative	*	*	0	0	*
Red River Valley Rrl Elec Assn	Cooperative	2	*	8	0	10
South Central Ark El Coop Inc	Cooperative	0	0	*	0	*
South Plains Electric Coop Inc	Cooperative	7	0	0	40	46
Southwestern Electric Power Co	Investor-Owned	22	0	0	0	22
Southwestern Public Service Co	Investor-Owned	124	1	4	0	129
SPP Total		312	-2	15	40	365
WSCC(U.S.)						
Alameda City of	Publicly Owned	1	3	0	3	6
Anaheim City of	Publicly Owned	*	*	*	0	*
Arizona Electric Pwr Coop Inc	Cooperative	1	1	0	0	2
Arizona Public Service Co	Investor-Owned	410	83	0	0	493
Bonneville Power Admin	Federal	1,814	735	1,136	0	3,685
Bountiful City City of	Publicly Owned	*	0	*	0	*
El Paso Electric Co	Investor-Owned	*	32	0	0	32
Idaho Power Co	Investor-Owned	42	11	18	16	87
Imperial Irrigation District	Publicly Owned	38	7	3	*	48
Longmont City of	Publicly Owned	22	10	2	0	33
Los Angeles City of	Publicly Owned	47	80	50	32	210
Loveland City of	Publicly Owned	*	0	0	0	*
Modesto Irrigation District	Publicly Owned	2	4	0	0	5
Montana Power Co	Investor-Owned	28	67	0	23	118
Navopache Electric Coop Inc	Cooperative	2	*	*	*	2
Nevada Power Co	Investor-Owned	22	128	0	0	150
Overton Power District No 5	Publicly Owned	*	*	0	0	*
Pacific Gas & Electric Co	Investor-Owned	278	818	244	270	1,610
PacifiCorp	Investor-Owned	329	50	298	0	678
Palo Alto City of	Publicly Owned	0	10	0	0	10
Pasadena City of	Publicly Owned	*	7	0	0	7
Portland General Electric Co	Investor-Owned	103	175	36	0	313
Public Service Co of Colorado	Investor-Owned	9	146	867	48	1,071
Puget Sound Power & Light Co	Investor-Owned	857	563	63	7	1,490
Redding City of	Publicly Owned	70	13	1	*	83
Riverside City of	Publicly Owned	10	*	*	0	10
Roseville City of	Publicly Owned	*	1	0	0	1
Sacramento Municipal Util Dist	Publicly Owned	137	133	0	0	269
Salt River Proj Ag I & P Dist	Publicly Owned	0	41	0	0	41
San Diego Gas & Electric Co	Investor-Owned	24	111	0	0	134
Santa Clara City of	Publicly Owned	0	0	50	0	50
Seattle City of	Publicly Owned	149	142	17	26	334
Sierra Pacific Power Co	Investor-Owned	14	39	99	0	152
Southern California Edison Co	Investor-Owned	1,194	2,959	1,789	171	6,113
Springfield City of	Publicly Owned	51	2	1	*	54
Sulphur Springs Valley E C Inc	Cooperative	*	*	0	*	*
Tacoma City of	Publicly Owned	75	78	30	*	183
Trico Electric Coop Inc	Cooperative	0	*	0	0	*
Turlock Irrigation District	Publicly Owned	2	2	*	*	5
Black Hills Corp	Investor-Owned	3	1	*	0	4
Vera Irrigation District #45	Publicly Owned	1	0	0	0	1

See footnotes at end of table.

**Table 11. U.S. Electric Utility Energy Savings by North American Electric Reliability Council
Region and Hawaii by Class of Ownership and Sector, 1993**
(Million Kilowatthours) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
WSCC(U.S.) (Continued)						
Vernon City of	Publicly Owned	0	0	23	0	23
Washington Water Power Co	Investor-Owned	370	14	7	0	391
Yellowstone Vly Elec Coop Inc	Cooperative	5	0	0	0	5
Tucson Electric Power Co	Investor-Owned	8	40	0	0	47
WSCC(U.S.) Total		6,117	6,503	4,734	599	17,954
Contiguous U.S.		19,238	16,550	8,644	842	45,275
ASCC						
Alaska Electric Light&Power Co	Investor-Owned	*	*	0	0	*
Golden Valley Elec Assn Inc	Cooperative	2	0	0	0	2
ASCC Total		2	*	0	0	2
Hawaii						
Hawaii Electric Light Co Inc	Investor-Owned	0	2	0	0	2
Maui Electric Co Ltd	Investor-Owned	*	5	0	0	5
Hawaiian Electric Co Inc	Investor-Owned	*	10	0	0	10
Hawaii Total		*	16	0	0	17
U.S. Total		19,241	16,567	8,644	842	45,294

* Value less than 0.5.

Notes: *Data are final. *Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. *Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Peakload Reduction

One of the main goals of DSM programs is reduction in a utility's peak load. This can be achieved through the use of energy efficiency and load control programs. Peakload reduction (measured in megawatts (MW)) is categorized as potential or actual peakload reduction. Potential peakload reduction is the amount of load available for curtailment through load control programs such as direct load control, interruptible load control, other load management, or other DSM programs. Actual peakload reduction is the amount of reduction that is achieved from load control programs when they are actually put into force at the same time as peak load, and from the amount of reduction resulting from energy efficiency programs at the same time as peak load.

Utilities are required to report potential and actual peakload reductions on the Form EIA-861 for the direct load control, interruptible load control, other load management, and other DSM program categories. Utilities are also required to report actual peakload reductions from energy efficiency programs, but are not required to report potential peakload reduction for the energy efficiency category because these programs are focused on reducing energy consumption over many hours during the year and cannot be implemented specifically during the time of peak load. However, to allow for more accurate comparisons and data analyses to be conducted, in this publication it is assumed that potential peakload reduction resulting from energy efficiency programs was equal to actual peakload reduction. Only large utilities report annual effects for actual and potential peakload reductions; small utilities report only incremental reductions.¹¹

Annual Effects for Actual Peakload Reduction

In 1993, actual peakload reduction was 23,069 MW, an increase of 85 percent since 1989 when EIA began its DSM data collection. Actual peakload reductions are predicted by utilities to increase to 25,266 MW in 1994 and to 36,291 MW in 1998 (Table 12).

For the 1993 reporting year, investor-owned utilities accounted for 71 percent of actual peakload reductions. Federally owned utilities accounted for 11 percent, followed by cooperatives with 10 percent,

and publicly owned utilities with 8 percent. Utility forecasts indicated that investor-owned utilities are expected to increase actual peakload reductions by 13 percent in 1994 and increase at an annual rate of 10 percent through 1998. In 1998, cooperatives and Federally owned utilities are expected to provide almost 9 percent of actual peakload reductions and publicly owned utilities are expected to provide 8 percent (Table 12).¹² Cooperatives have the greatest peakload reduction as a percentage of utility peak load because as purchasers of wholesale power, which is more expensive during peak periods, they focus on peakload reduction rather than energy savings. For this reason, it is economically efficient for cooperatives to reduce their system peak load as much as possible (Figure 5).

The 100 utilities with the greatest actual peakload reductions in 1993 accounted for 89 percent of the total peakload reduction. The 50 utilities with the greatest peakload reductions accounted for 76 percent of the total and the top 25 utilities accounted for 61 percent of actual peakload reductions (Figure 6). These 100, 50, and 25 utilities with the greatest actual peakload reductions represented 57, 41, and 27 percent, respectively, of total retail sales of electricity in the United States in 1993.

Energy efficiency programs accounted for the greatest share of actual peakload reductions, 45 percent of the 23,069 MW of total actual peakload reductions. Interruptible load, primarily an industrial sector program, contributed 29 percent of the total (Figure 7). Interruptible load programs increased 85 percent from 1992 to 1993. Direct load control programs accounted for 17 percent of actual peakload reduction. Other load management and other DSM programs combined for the remaining 9 percent of total peakload reductions (Table 13). The actual peakload reductions that are predicted for 1994 and 1998 indicated increases in all categories except other load management, where a decrease is predicted for 1994. The greatest increase is predicted for the energy efficiency category, an increase of 1,364 MW. This coincided with a large increase in energy savings resulting from energy efficiency programs. The greatest percentage of increase, 17 percent, is expected in the other DSM program category. From 1994 to 1998, the average annual increase is expected to be approximately 9 percent, with the greatest average annual growth rate pre-

¹¹ Incremental peakload reductions and energy savings are those caused by new programs and new participants in existing programs for the current reporting year.

¹² Actual Peakload Reduction is a function of external factors such as weather conditions. Estimated predictions of Actual Peakload Reductions are dependent on certain conditions remaining static from year to year. In reality, utilities cannot predict weather conditions that may alter forecasted data.

dicted for energy efficiency programs at 12 percent (Tables 13 and 18).

In 1993, the residential sector accounted for 38 percent of actual peakload reductions, the commercial sector, 33 percent, the industrial sector, 27 percent, and the other sector, 2 percent. The residential sector's share was greatest primarily because of the volume of participants in energy efficiency and direct load control programs. The greatest percentage of increases in actual peakload reductions from 1992 to 1993 were in the commercial and industrial sectors with 64 percent and 40 percent, respectively. The residential sector increased actual peakload reductions 16 percent and the other sector decreased 23 percent (Tables 14 and 20).

The NERC region with the greatest peakload reductions in 1993 was SERC with 36 percent of total U.S. peakload reductions, due partly to the inclusion of several large utilities that had the largest load management programs in the United States. The WSCC region had the second greatest peakload reductions contributing 18 percent of the total peakload reductions for 1993. The greatest MW increase, 2,888 MW, occurred in the SERC region, and the greatest percentage of increase, 139 percent, occurred in the ERCOT region. For 1994, the MAAC region is predicted to increase by 54 percent. From 1994 to 1998, the SERC region is predicted to increase at annual rate of 17 percent (Table 18).

Potential Peakload Reductions

In 1993, potential peakload reductions increased 22 percent to 39,508 MW. For 1994, potential reductions are predicted to increase 7 percent to 42,220 MW, and by 1998 to increase at an average annual rate of 7 percent to 55,163 MW.

In 1993, investor-owned utilities accounted for 71 percent of the total potential peakload reduction, publicly owned accounted for 6 percent, cooperatives for 12 percent, and Federally owned for 11 percent. These utilities accounted for 67 percent (investor-owned), 5 percent (publicly owned), 1 percent (cooperatives), and 2 percent (Federally owned) of the total retail sales of electricity in the United States. The greatest percentage of increase, 64 percent, was reported by Federally owned utilities due to an increase by the Tennessee Valley Authority in interruptible load programs. For 1994, an 8-percent increase is forecasted for investor-owned utilities. For 1998, publicly owned utilities are predicted to have the greatest annual rate of increase, 10 percent. Investor-owned utilities are predicted to continue to account for the greatest share of potential peakload reductions in 1998 at 73 percent.

Interruptible load programs accounted for 46 percent of potential peakload reductions in 1993; energy efficiency accounted for 26 percent, direct load control

for 21 percent, and other load management and other DSM programs combined accounted for 7 percent. The greatest percentage of increase occurred for interruptible load programs. For 1994, energy efficiency programs are forecasted to increase 13 percent, and direct load programs are forecasted to increase 11 percent. For 1998, the greatest average annual increase, 12 percent, is predicted for energy efficiency programs. In 1998, the greatest share of potential peakload reduction is expected for interruptible load programs (Table 13).

The industrial sector accounted for 35 percent in 1993, the greatest share of potential peakload reductions, primarily as a result of interruptible load programs. The residential and commercial sectors contributed 33 percent and 30 percent, respectively, in 1993. The other sector accounted for less than 3 percent.

In 1993, the SERC region accounted for 37 percent of the total potential peakload reduction, primarily due to the inclusion of Tennessee Valley Authority, Carolina Power and Light, and Duke Power. The SERC region also accounted for the largest increase in potential peakload reduction from 1992 to 1993. The largest percentage of increase was achieved by the ERCOT region. The WSCC region is predicted to have the largest increase from 1993 to 1994, while the NPCC region is forecasted to have the largest percentage of increase in 1994. The ECAR region is forecasted to have the greatest average rate of increase through 1998.

Incremental Effects for Actual Peakload Reduction

In 1993, large utilities reported incremental peakload reductions of 4,648 MW, with investor-owned utilities contributing the greatest increase over 1992 at 755 MW. Publicly owned, large utilities actually decreased incremental peakload reductions by 55 MW from 1992 to 1993. Small utilities reported incremental peakload reductions of 185 MW for 1993, a decrease of 147 MW from 332 MW in 1992 (Table 15).

The greatest increases for large utilities in incremental peakload reduction from 1992 to 1993 by program category was for interruptible load and energy efficiency programs, which experienced almost equal incremental peakload reductions with 1,864 MW and 1,839 MW, respectively. For small utilities, direct load control accounted for the greatest amount of incremental peakload reduction at 105 MW (Table 16).

For large utilities, the industrial sector accounted for the greatest increase in incremental peakload reduction during 1993, 563 MW more than in 1992. For small utilities, the residential sector accounted for the greatest amount, 76 MW, of peakload reduction (Table 17).

Table 12. U.S. Electric Utility Actual and Potential Peakload Reductions by Class of Ownership, 1989 Through 1993, 1994, and 1998 (Megawatts)

Class of Ownership	Historical Actual Reductions					Projected Actual Reductions	
	1989	1990	1991	1992	1993	1994	1998
Investor-Owned	8,687	9,435	10,576	12,330	16,362	18,463	27,227
Publicly Owned	1,054	1,197	1,634	1,794	1,898	1,890	2,801
Cooperative	1,513	1,822	2,821	2,374	2,327	2,444	3,140
Federal	1,209	1,250	588	707	2,481	2,469	3,122
U.S. Total ¹	12,463	13,704	15,619	17,204	23,069	25,266	36,291

	Historical Potential Reductions					Projected Potential Reductions	
	1989	1990	1991	1992	1993	1994	1998
Investor-Owned	NA	NA	NA	23,774	28,059	30,347	40,330
Publicly Owned	NA	NA	NA	2,305	2,376	2,508	3,624
Cooperative	NA	NA	NA	3,669	4,662	4,889	6,043
Federal	NA	NA	NA	2,694	4,411	4,475	5,166
U.S. Total ²	NA	NA	NA	32,442	39,508	42,220	55,163

¹ Represents the sum of the actual peakload reductions attributable to direct load control, interruptible load, energy efficiency, other load management, and other demand-side management.

² Represents the sum of the potential peakload reductions attributable to direct load control, interruptible load, other load management, other demand-side management, including the actual peakload reduction achieved by energy efficiency programs.

NA=Data not available.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 5. Actual Peakload Reductions as a Percentage of Total Peak Load by U.S. Electric Utilities with DSM Peakload Reduction Programs and by Class of Ownership, 1993

Note: This graph only includes utilities that reported peakload reductions.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 6. The Top 25, 50, and 100 U.S. Electric Utilities with the Greatest DSM Program Peakload Reductions by Class of Ownership, 1993

Note: Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 13. U.S. Electric Utility Actual and Potential Peakload Reductions by DSM Program Category, 1992, 1993, 1994, and 1998
(Megawatts)

Program Category	Historical Actual Reductions	
	1992	1993
Energy Efficiency	7,890	10,368
Direct Load Control	3,779	3,955
Interruptible Load	3,579	6,628
Other Load Management	1,676	1,803
Other Demand-Side Management	281	315
U.S. Total ¹	17,204	23,069
	Projected Actual Reductions	
	1994	1998
Energy Efficiency	11,732	18,679
Direct Load Control	4,168	5,625
Interruptible Load	7,525	9,243
Other Load Management	1,471	2,249
Other Demand-Side Management	370	495
U.S. Total ¹	25,266	36,291
	Historical Potential Reductions	
	1992	1993
Energy Efficiency	7,890	10,368
Direct Load Control	7,626	8,266
Interruptible Load	14,566	18,235
Other Load Management	1,899	2,182
Other Demand-Side Management	461	457
U.S. Total ²	32,442	39,508
	Projected Potential Reductions	
	1994	1998
Energy Efficiency	11,732	18,679
Direct Load Control	9,136	11,962
Interruptible Load	18,516	20,713
Other Load Management	2,341	3,173
Other Demand-Side Management	494	636
U.S. Total ²	42,220	55,163

¹ Represents the sum of the actual peakload reductions attributable to direct load control, interruptible load, energy efficiency, other load management, and other demand-side management.

² Represents the sum of the potential peakload reductions attributable to direct load control, interruptible load, other load management, other demand-side management, including the actual peakload reduction achieved by energy efficiency programs.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 7. U.S. Electric Utility Actual and Potential Peakload Reductions by DSM Program Category, 1993

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 14. U.S. Electric Utility Actual and Potential Peakload Reductions by Sector, 1992 and 1993 (Megawatts)

Sectors	1992		1993	
	Actual	Potential	Actual	Potential
Residential	7,606	11,058	8,851	12,868
Commercial	4,598	7,002	7,541	11,821
Industrial	4,467	13,367	6,270	13,957
Other	532	1,014	407	862
U.S. Total	17,204	32,442	23,069	39,508

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 15. U.S. Electric Utility Incremental Actual Peakload Reductions by Class of Ownership, 1992 and 1993
(Megawatts)

Class of Ownership	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Investor-Owned	3,222	3,977	*	*	3,222	3,978
Publicly Owned	398	343	165	95	563	438
Cooperative	290	313	167	90	457	403
Federal	12	14	0	0	12	14
U.S. Total	3,922	4,648	332	185	4,254	4,833

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

* Value less than 0.5.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 16. U.S. Electric Utility Incremental Actual Peakload Reductions by DSM Program Category, 1992 and 1993
(Megawatts)

Program Category	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Energy Efficiency	1,501	1,839	17	9	1,518	1,848
Direct Load Control	554	594	183	105	737	699
Interruptible Load	1,537	1,864	27	33	1,564	1,896
Other Load Management	293	297	92	38	385	334
Other Demand-Side Management	36	55	13	1	49	56
U.S. Total ³	3,922	4,648	332	185	4,254	4,833

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

³ Represents the sum of the achieved reductions in the annual peakload attributable to direct load control, interruptible load, energy efficiency, other load management, and other demand-side management; whereas, in the *Electric Power Annual, 1992*, 1992 and 1991 peakload reductions attributable to energy efficiency, other load management, and other demand-side management were reported together under conservation and other programs.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 17. U.S. Electric Utility Incremental Actual Peakload Reductions by Sector, 1992 and 1993
(Megawatts)

Sector	Large Utilities ¹		Small Utilities ²		Total	
	1992	1993	1992	1993	1992	1993
Residential	1,112	1,147	139	76	1,251	1,223
Commercial	1,251	1,427	32	35	1,283	1,462
Industrial	1,451	2,014	113	47	1,564	2,060
Other	108	61	48	28	156	88
U.S. Total	3,922	4,648	332	185	4,254	4,833

¹ Refers to electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

² Refers to electric utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours.

Notes: •Data are final. •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
ECAR								
Appalachian Power Co	1	182	146	202	182	215	348	348
Cincinnati Gas & Electric Co	5	15	22	26	20	57	101	190
Cleveland Electric Illum Co	1	91	6	96	8	98	50	140
Columbus Southern Power Co	5	30	27	37	49	49	121	121
Consumers Power Co	31	31	135	135	155	155	425	425
Crawfordsville Elec Lgt&Pwr Co	—	—	0	0	2	2	9	10
Dayton Power & Light Co	5	5	16	16	16	16	101	101
Detroit Edison Co	6	22	25	42	70	70	193	193
East Kentucky Power Coop Inc	10	10	11	11	16	16	38	38
Buckeye Power Inc	114	114	119	119	123	123	140	140
Hamilton City of	—	—	0	*	0	2	0	4
Hendricks County Rural E M C	—	—	4	4	0	6	0	10
Indianapolis Power & Light Co	10	22	14	26	52	52	102	102
Indiana Michigan Power Co	6	82	37	87	66	91	130	130
Kentucky Utilities Co	18	18	20	20	44	44	62	62
Kingsport Power Co	*	*	1	1	2	2	13	13
Lansing City of	—	—	*	6	*	6	*	8
Louisville Gas & Electric Co	0	87	64	110	120	120	156	156
Midwest Electric Inc	0	7	0	8	0	7	0	7
Monongahela Power Co	70	105	76	103	114	114	126	126
Northern Indiana Pub Serv Co	0	121	0	121	0	121	0	135
Ohio Edison Co	4	224	252	396	219	427	290	552
Ohio Power Co	11	192	120	202	86	217	315	315
Owen Electric Coop Inc	*	*	1	1	1	1	2	2
Pennsylvania Power Co	2	47	40	67	35	66	36	68
Potomac Edison Co	148	154	158	165	174	179	242	242
PSI Energy Inc	16	23	76	76	83	83	236	236
South Kentucky Rural E C C	0	3	—	—	—	—	—	—
Southern Indiana Gas & Elec Co	2	32	13	45	58	58	108	108
South Central Power Co	22	22	25	25	25	25	0	30
Toledo Edison Co	3	68	5	5	3	68	28	93
Utilities Dist-Western IN REMC	4	4	11	19	1	1	3	3
Virginia Tech Electric Service	2	2	2	2	2	2	3	3
Wadsworth City of	—	—	8	8	8	8	8	8
West Penn Power Co	142	151	145	154	157	162	193	193
Wheeling Power Co	1	1	3	3	3	3	7	7
Wolverine Pwr Supply Coop Inc	5	5	8	10	10	12	15	18
Kentucky Power Co	*	28	35	35	24	33	42	44
Wabash Valley Power Assn Inc	12	44	40	50	40	55	32	75
American Mun Power-Ohio Inc	6	9	6	9	7	9	8	10
ECAR Total	661	1,952	1,671	2,440	1,975	2,774	3,684	4,466
ERCOT								
Austin City of	195	242	212	259	235	282	328	365
Brazos Electric Power Coop Inc	*	*	1	1	2	2	33	33
Bryan City of	8	8	9	9	11	11	19	19
Central Power & Light Co	34	251	71	336	84	388	154	472
Denton City of	6	8	3	3	3	3	8	8
Garland City of	14	30	14	32	14	31	15	36
Georgetown City of	—	—	*	*	1	2	4	6
Greenville Electric Util Sys	8	11	3	5	4	7	7	11
Guadalupe Valley Elec Coop Inc	61	66	61	68	61	68	62	69
Houston Lighting & Power Co	42	897	48	1,176	74	929	145	814
Johnson County Elec Coop Assn	*	*	2	2	2	2	3	3
Lower Colorado River Authority	68	91	92	92	96	96	134	134
Magic Valley Electric Coop Inc	—	—	*	*	1	1	1	1
Medina Electric Coop Inc	9	28	6	28	8	28	6	22
San Antonio Public Service Bd	13	14	0	0	0	0	0	0
San Bernard Electric Coop Inc	3	3	14	27	10	22	11	24
Tri-County Electric Coop Inc	2	2	2	2	3	3	3	3
West Texas Utilities Co	0	24	39	53	0	58	0	62
San Marcos City of	3	12	3	12	*	*	*	*
Texas-New Mexico Power Co	60	108	19	26	21	28	26	36
Texas Utilities Electric Co	65	528	814	1,314	569	1,069	569	1,069
ERCOT Total	592	2,325	1,414	3,446	1,199	3,029	1,528	3,187

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
MAAC								
A & N Electric Coop	1	1	1	1	1	2	1	2
Allegheny Electric Coop Inc	101	237	—	—	—	—	—	—
Atlantic City Electric Co	103	103	94	94	105	105	137	137
Baltimore Gas & Electric Co	353	389	59	523	85	648	170	888
Choptank Electric Coop Inc	1	3	5	10	6	11	7	13
Conowingo Power Co	3	3	3	3	1	1	3	3
Delmarva Power & Light Co	104	230	162	246	16	237	31	309
Delaware Electric Coop Inc	5	13	6	13	6	13	8	16
Easton Utilities Comm	—	—	*	*	1	1	6	6
Jersey Central Power&Light Co	73	110	144	183	173	212	276	315
Metropolitan Edison Co	375	375	276	276	275	275	291	291
Pennsylvania Electric Co	40	40	51	51	62	62	78	78
Pennsylvania Power & Light Co	90	106	167	167	242	242	264	264
Philadelphia Electric Co	45	309	45	370	370	370	372	372
Potomac Electric Power Co	160	339	177	375	534	534	975	975
Public Service Electric&Gas Co	170	181	244	368	346	427	859	1,018
Southern Maryland El Coop Inc	34	37	32	185	49	211	93	327
Somerset Rural Elec Coop Inc	1	2	1	2	3	3	3	3
Adams Electric Coop Inc	7	9	8	10	15	17	22	24
Bedford Rural Elec Coop Inc	—	—	2	2	2	2	2	2
Valley Rural Electric Coop Inc	3	5	3	4	3	5	3	5
Central Electric Coop Inc	2	3	4	4	4	4	5	5
Claverack Rural Elec Coop Inc	—	—	5	5	0	6	0	6
Southwest Central R E C Corp	*	*	0	*	0	1	0	1
Northwestern Rural E C A Inc	5	6	5	6	5	6	6	8
MAAC Total	1,677	2,500	1,493	2,899	2,303	3,394	3,612	5,068
MAIN								
Boone Electric Coop	*	*	2	7	2	7	3	13
Central Illinois Light Co	54	61	62	62	0	77	5	116
Coles-Moultrie Electric Coop	2	2	8	8	9	9	11	11
Columbia City of	11	20	7	17	13	31	21	53
Commonwealth Edison Co	16	171	23	173	171	171	605	605
Corn Belt Electric Coop Inc	9	15	6	15	9	16	15	24
Cuivre River Electric Coop Inc	3	5	6	9	7	9	10	12
Eastern Illini Electric Coop	2	9	10	12	12	12	16	16
Illinois Power Co	204	204	5	166	5	158	5	165
Madison Gas & Electric Co	13	19	30	42	44	62	71	99
Manitowoc Public Utilities	1	1	2	2	1	1	1	2
Marshfield City of	*	1	1	1	1	1	4	7
Menard Electric Coop	0	16	0	*	*	*	*	*
Shelby Electric Coop Inc	0	4	8	8	11	11	15	15
Southeastern IL Elec Coop Inc	*	*	0	*	0	*	0	1
Southwestern Electric Coop Inc	3	12	25	50	22	31	31	44
Springfield City of	5	5	5	9	6	10	10	14
Tri-County Electric Coop Inc	13	18	12	12	12	12	16	17
Union Electric Co	190	247	145	182	0	175	54	250
Wayne-White Counties Elec Coop	0	12	0	12	9	13	10	13
Wisconsin Electric Power Co	205	292	336	435	314	622	364	810
Wisconsin Power & Light Co	44	163	54	196	223	223	335	335
Wisconsin Public Power Inc Sys	2	2	7	7	17	17	67	67
Wisconsin Public Service Corp	62	84	91	121	235	235	302	302
MAIN Total	840	1,365	844	1,545	1,122	1,903	1,969	2,990
MAPP(U.S.)								
Ames City of	0	6	*	6	1	6	7	8
Anoka Electric Coop	3	3	—	—	—	—	—	—
Anoka City of	—	—	*	*	*	*	*	1
Austin City of	4	7	5	5	5	6	6	7
Barron Electric Coop	7	8	6	6	6	6	6	6
Beatrice City of	5	17	4	15	4	16	5	18
Cedar Falls City of	0	*	5	5	5	5	6	6
Central Iowa Power Coop	—	—	5	27	5	30	7	40
Central Power Elec Coop Inc	15	22	15	22	16	23	17	24

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
MAPP(U.S.) (Continued)								
Clark Electric Coop	4	4	4	4	3	3	3	3
Coop Power Assn	*	89	2	110	5	129	16	209
Cornhusker Public Power Dist	14	20	6	23	7	23	10	25
Dawson County Public Pwr Dist	33	35	*	*	0	*	0	*
East River Elec Power Coop Inc	40	72	43	104	32	94	36	101
Fairmont Public Utilities Comm	2	6	*	*	1	1	1	2
Freeborn-Mower Electric Coop	—	—	3	3	4	4	9	9
Grant-Lafayette Electric Coop	4	6	5	5	5	5	9	9
IES Utilities Inc	—	—	178	339	366	366	463	463
Interstate Power Co	2	26	38	51	61	61	107	107
Iowa Electric Light & Power Co	81	203	—	—	—	—	—	—
Iowa Lakes Electric Coop	7	7	12	13	15	23	21	29
Iowa Southern Utilities Co	1	2	—	—	—	—	—	—
Iowa-Illinois Gas&Electric Co	—	—	0	0	7	7	24	24
L & O Power Coop	2	2	2	2	2	2	2	2
Lincoln Electric System	1	1	1	2	2	2	3	4
Linn County Rural E C A	*	*	—	—	—	—	—	—
Loup River Public Power Dist	1	12	—	—	—	—	—	—
Marshall City of	3	5	3	5	3	6	3	7
MDU Resources Group Inc	5	9	7	11	12	13	15	17
Nodak Electric Coop Inc	62	62	61	61	63	63	68	68
Midland Power Coop	*	2	*	*	*	*	*	*
Maquoketa Valley Rrl Elec Coop	*	*	—	—	—	—	—	—
Minnesota Power & Light Co	14	82	16	102	123	214	165	278
Minnkota Power Coop Inc	275	275	285	285	290	290	310	310
Moorhead City of	1	1	12	12	14	14	18	21
Nebraska Public Power District	8	8	7	9	7	9	7	9
Norris Public Power District	8	20	1	8	8	8	9	9
North Platte City of	4	7	7	8	8	9	8	9
Northern States Power Co	48	93	126	126	126	146	185	215
Northern States Power Co	550	550	691	691	841	841	1,375	1,375
Northwest Iowa Power Coop	4	24	7	27	12	28	14	32
Northwestern Public Service Co	*	*	*	*	*	*	1	1
Oakdale Electric Coop	7	9	4	4	4	4	4	4
Oliver-Mercer Elec Coop Inc	2	3	2	2	2	2	2	2
Omaha Public Power District	1	1	2	2	18	18	51	51
Otter Tail Power Co	6	239	90	110	8	112	8	111
Owatonna City of	7	20	9	20	5	15	5	15
People's Coop Power Assn	2	3	4	4	5	5	6	6
Pella City of	—	—	*	*	*	*	*	*
Pierre City of	6	11	5	8	6	9	8	11
Polk-Burnett Electric Coop	8	8	8	16	9	17	10	20
Rochester Public Utilities	6	8	8	9	8	9	13	14
Roseau Electric Coop Inc	—	—	19	19	20	20	25	25
Runestone Electric Assn	8	17	6	22	6	23	7	25
Shakopee Public Utilities Comm	0	1	1	1	1	1	2	3
Superior Water Light&Power Co	3	3	*	1	6	6	8	8
Tri-County Electric Coop	10	15	9	9	9	9	10	10
United Power Assn	95	193	106	158	111	165	123	184
Verendrye Electric Coop Inc	4	10	4	4	5	5	6	6
Vernon Electric Coop	—	—	7	7	6	6	6	6
Mountrail-Williams El Coop Inc	5	9	5	10	5	10	6	12
Wild Rice Electric Coop Inc	13	15	19	52	19	53	21	58
Municipal Energy Agency of NE	18	18	20	23	14	18	19	23
Midwest Power Systems Inc	83	83	179	179	158	158	243	243
Cass County Electric Coop Inc	52	55	57	61	55	58	61	65
MAPP(U.S.) Total	1,542	2,405	2,121	2,809	2,538	3,177	3,581	4,346
NPCC(U.S.)								
Bangor Hydro-Electric Co	7	8	7	7	10	10	14	14
Blackstone Valley Electric Co	8	8	12	12	9	10	15	16
Boston Edison Co	113	113	101	101	24	34	10	20
Braintree Town of	0	2	3	7	4	7	5	6
Burlington City of	5	5	3	3	3	3	3	3

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
NPCC(U.S.) (Continued)								
Cambridge Electric Light Co	12	12	6	15	5	5	5	5
Central Hudson Gas & Elec Corp	20	28	23	35	29	29	67	67
Central Maine Power Co	85	85	84	84	89	89	79	79
Central Vermont Pub Serv Corp	115	115	122	122	160	160	159	159
Chicopee City of	2	2	1	1	2	3	2	6
Citizens Utilities Co	1	1	7	7	11	11	23	23
Commonwealth Electric Co	17	21	19	19	13	13	13	13
Concord Electric Co	*	1	1	1	1	1	3	4
Connecticut Light & Power Co	265	265	267	267	272	272	312	312
Connecticut Valley Elec Co Inc	5	5	5	5	5	5	6	6
Consolidated Edison Co-NY Inc	251	271	184	213	530	551	767	767
Eastern Edison Co	20	20	25	25	17	24	30	36
Exeter & Hampton Electric Co	*	*	1	1	1	1	4	4
Fitchburg Gas & Elec Light Co	2	2	2	2	3	3	6	6
Green Mountain Power Corp	12	16	15	21	19	25	34	40
Holyoke City of	1	1	1	1	1	1	1	1
Hingham City of	1	7	4	7	4	7	5	9
Jamestown City of	*	*	*	*	2	2	2	2
Littleton Town of	—	—	0	1	0	1	0	1
Long Island Lighting Co	251	251	194	194	282	282	354	354
Maine Public Service Co	3	6	1	6	6	6	3	3
Massachusetts Electric Co	102	102	147	147	181	181	373	373
Massena Town of	1	3	1	4	1	4	1	4
Montaup Electric Co	30	30	32	32	39	47	60	66
Narragansett Electric Co	43	43	56	56	64	64	97	97
New England Power Co	—	—	0	71	1	81	19	135
New Hampshire Elec Coop Inc	22	24	31	39	23	32	45	57
New York State Elec & Gas Corp	55	55	157	158	122	125	178	181
Newport Electric Corp	1	1	2	2	2	2	5	5
Niagara Mohawk Power Corp	108	108	135	135	169	169	334	334
North Attleborough Town of	2	2	—	—	—	—	—	—
Norwood City of	*	*	1	7	1	1	*	*
Orange & Rockland Utils Inc	76	76	98	98	111	111	162	162
Power Authority of State of NY	16	16	33	33	57	57	92	92
Public Service Co of NH	0	0	*	*	3	3	11	11
Reading Town of	6	8	6	8	*	9	*	9
Rochester Gas & Electric Corp	53	53	49	49	46	46	85	85
Shrewsbury Town of	2	2	3	3	3	3	4	4
Taunton City of	3	3	4	4	1	1	0	0
United Illuminating Co	30	69	57	57	56	56	90	90
Omya Inc	—	—	*	*	1	1	2	2
Wellesley Town of	0	0	0	0	0	0	0	2
Western Massachusetts Elec Co	45	45	59	59	74	74	104	104
Granite State Electric Co	6	6	8	8	10	10	19	19
NPCC(U.S.) Total	1,796	1,890	1,968	2,130	2,467	2,630	3,602	3,786
SERC								
Aiken Electric Coop Inc	3	4	4	4	5	5	6	6
Alabama Electric Coop Inc	5	107	6	103	99	99	99	99
Alabama Power Co	154	634	84	802	85	840	119	991
Albemarle City of	—	—	*	*	*	*	*	*
Altamaha Electric Member Corp	3	7	3	8	3	9	3	10
Amicalola Electric Member Corp	1	2	1	3	3	4	5	6
Athens City of	—	—	2	10	5	10	6	10
BARC Electric Coop Inc	2	2	2	2	2	2	2	2
Berkeley Electric Coop Inc	18	47	21	54	22	56	28	78
Black River Electric Coop Inc	5	5	4	4	4	4	5	5
Blue Ridge Elec Member Corp	0	12	0	12	0	18	0	29
Bristol City of	—	—	27	27	27	27	27	27
Canoochee Electric Member Corp	2	2	2	2	2	2	2	2
Carolina Power & Light Co	740	916	1,362	1,375	660	992	808	1,216
Carroll Electric Member Corp	13	14	13	15	14	15	16	18
Carerret-Craven El Member Corp	8	36	7	38	8	39	12	53
Central Florida Elec Coop Inc	0	1	2	2	2	3	2	3

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
SERC (Continued)								
Central Georgia El Member Corp	15	16	16	17	14	15	16	17
Central Electric Member Corp	3	3	3	3	3	4	5	6
Clay Electric Coop Inc	51	111	54	116	54	99	66	119
Coast Electric Power Assn	29	35	26	32	27	33	31	38
Coastal Electric Member Corp	—	—	3	3	4	4	4	5
Cobb Electric Membership Corp	49	55	51	51	44	44	51	51
Community Electric Coop	—	—	2	2	2	2	2	3
Coweta-Fayette El Member Corp	15	18	32	36	32	36	36	40
Crescent Electric Member Corp	15	19	16	21	18	23	25	32
Crisp County Power Comm	1	1	—	—	—	—	—	—
Davidson Electric Member Corp	22	30	5	7	9	10	12	13
Dothan City of	5	5	17	17	15	15	15	15
Douglas City of	3	3	3	4	3	4	4	4
Duke Power Co	43	1,382	45	1,521	9	1,456	375	1,798
East Point City of	—	—	3	8	4	8	7	15
Elizabeth City City of	0	*	0	10	0	10	0	10
Excelsior Electric Member Corp	0	3	0	4	0	4	0	4
Fairfield Electric Coop Inc	4	17	5	21	5	25	7	34
Fayetteville Public Works Comm	1	1	1	1	1	1	2	9
Fitzgerald Wtr Lgt & Bond Comm	1	1	1	1	1	1	1	1
Flint Electric Membership Corp	31	35	44	48	49	53	54	59
Florida Keys El Coop Assn Inc	1	2	1	2	2	3	3	4
Florida Power & Light Co	1,168	1,258	1,331	1,331	1,587	1,587	1,914	1,914
Florida Power Corp	250	1,285	222	1,438	281	1,438	281	1,438
Fort Pierce Utilities Auth	*	*	*	*	*	*	*	*
Four County Elec Member Corp	9	13	24	24	28	28	39	39
Gaffney City of	—	—	0	*	0	*	0	1
Gainesville Regional Utilities	14	14	16	16	16	16	20	20
Gastonia City of	25	25	—	—	—	—	—	—
GreyStone Power Corp	18	32	18	34	20	34	25	40
Georgia Power Co	240	266	380	380	383	421	684	746
Grady County Elec Member Corp	6	8	5	7	5	7	6	8
Greenville Utilities Comm	30	30	31	34	32	36	42	46
Griffin City of	—	—	2	2	2	2	2	2
Gulf Power Co	135	135	141	141	147	147	177	177
Harrisonburg City of	2	2	6	6	13	13	13	13
Hart Electric Member Corp	5	6	6	7	6	7	9	10
Haywood Electric Member Corp	6	10	*	1	*	1	*	1
High Point Town of	9	61	8	70	8	70	8	86
Jackson Electric Member Corp	40	40	42	42	42	42	51	51
Jacksonville Electric Auth	20	20	21	21	24	24	34	34
Jefferson Electric Member Corp	11	12	12	13	13	14	14	15
Jones-Onslow Elec Member Corp	4	6	12	32	15	43	22	50
Kinston City of	10	10	9	9	13	13	20	20
Kissimmee Utility Authority	5	10	2	24	2	37	4	76
Lakeland City of	44	46	63	67	69	76	105	116
Lamar Electric Membership Corp	1	1	1	1	1	1	1	1
Laurens Electric Coop Inc	4	4	*	*	*	*	*	*
Laurinburg City of	—	—	2	3	2	3	3	4
Lawrenceville City of	4	4	4	4	4	4	5	5
Lee County Electric Coop Inc	52	52	47	49	53	55	60	63
Leesburg City of	7	7	7	8	8	8	14	14
Lexington City of	6	6	—	—	—	—	—	—
Lumbee River Elec Member Corp	10	15	10	16	11	16	15	21
Lumberton City of	2	5	*	*	*	*	*	*
Lynches River Elec Coop Inc	3	3	2	2	3	3	3	3
Manassas City of	27	40	18	18	18	19	23	25
Marietta City of	1	7	2	9	3	13	3	13
Mecklenburg Electric Coop Inc	10	10	9	12	9	12	1	10
Mid-Carolina Electric Coop Inc	9	9	6	6	7	7	10	10
Mississippi Power Co	—	—	*	*	*	*	*	*
Mitchell Electric Member Corp	0	7	0	8	0	8	0	10
Monroe City of	2	3	3	3	13	17	20	23
Morganton City of	6	7	—	—	—	—	—	—

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
SERC (Continued)								
Municipal Electric Authority	0	*	0	*	0	*	0	*
New Bern City of	4	5	5	6	6	7	4	11
New River Light & Power Co	1	3	1	3	1	3	1	4
New Smyrna Beach Utils Comm	7	7	0	5	7	7	7	7
Newberry City of	2	2	0	1	0	1	0	1
North Carolina Mun Power Agny	45	45	58	58	0	59	0	61
Northern Virginia Elec Coop	35	37	26	31	27	32	60	67
North Carolina El Member Corp	149	149	0	115	0	131	0	194
North Carolina Eastern M P A	68	68	86	86	0	89	0	98
Northern Neck Elec Coop Inc	2	2	2	2	2	2	2	2
Ocala City of	6	7	6	8	1	3	0	5
Orangeburg City of	6	6	5	5	5	7	7	8
Palmetto Electric Coop Inc	8	12	8	13	10	15	15	22
Orlando Utilities Comm	13	13	18	18	19	19	29	29
Planters Electric Member Corp	4	6	0	8	0	8	0	8
Pee Dee Electric Member Corp	4	7	*	*	*	*	*	*
Piedmont Electric Member Corp	13	13	14	14	15	15	17	17
Prince George Electric Coop	12	12	1	2	2	2	2	2
Pulaski City of	—	—	15	20	15	20	15	20
Randolph Electric Member Corp	7	7	12	12	10	10	19	19
Rayle Electric Membership Corp	2	3	2	3	2	3	2	3
Reedy Creek Improvement Dist	—	—	2	3	0	1	0	1
Roanoke Electric Member Corp	3	14	0	0	0	0	0	0
Rock Hill City of	—	—	8	8	10	10	12	12
Rocky Mount City of	14	19	18	23	19	19	38	38
Rutherford Elec Member Corp	14	16	14	16	0	14	0	17
Satilla Rural Elec Member Corp	8	14	9	15	4	6	5	7
Sawnee Electric Members Corp	13	48	15	60	19	75	32	134
Seneca City of	—	—	0	2	0	2	0	2
Shelby City of	3	5	—	—	—	—	—	—
Shenandoah Valley Elec Coop	6	6	8	8	9	9	11	11
Singing River Elec Power Assn	10	10	3	3	4	4	4	4
South Carolina Electric & Gas Co	100	100	143	143	176	176	231	231
South Carolina Pub Serv Auth	148	148	155	155	237	237	264	264
South Mississippi El Pwr Assn	32	32	33	33	40	40	44	44
Snapping Shoals El Member Corp	6	8	7	9	7	10	9	12
Statesville City of	34	34	—	—	—	—	—	—
Sumter Electric Coop Inc	27	28	31	36	5	41	6	56
Suwannee Valley Elec Coop Inc	0	1	0	10	0	13	0	14
Tallahassee City of	51	51	59	59	7	7	27	27
Tampa Electric Co	240	696	489	670	227	661	286	777
Tennessee Valley Authority	501	2,120	2,386	4,235	2,399	4,248	2,474	4,323
Thomasville City of	5	5	5	5	5	6	5	6
Tri-County Elec Member Corp	3	4	—	—	—	—	—	—
Tri-County Elec Member Corp	4	4	3	3	1	2	4	4
Tideland Electric Member Corp	6	6	7	7	6	10	8	12
Troup Electric Members Corp	*	6	0	7	0	7	0	9
Union Electric Membership Corp	8	8	8	8	8	8	11	11
Virginia Electric & Power Co	186	245	206	262	280	280	663	663
Wake Electric Membership Corp	15	17	18	20	18	20	24	26
Walton Electric Member Corp	21	27	21	27	23	29	33	39
Washington City of	5	5	5	7	7	7	1	1
Washington Elec Member Corp	3	4	4	4	4	4	5	6
Withlacoochee River Elec Coop	32	32	29	29	0	*	0	*
York Electric Coop Inc	13	18	32	35	36	36	39	39
Southside Electric Coop Inc	17	17	15	18	16	19	19	23
Brunswick Electric Member Corp	15	20	16	19	15	20	17	23
Colquitt Electric Members Corp	22	27	22	22	23	23	27	28
Central Electric Pwr Coop Inc	76	81	53	53	58	58	76	76
Rappahannock Electric Coop	91	119	35	46	36	47	41	58
Alabama Municipal Elec Auth	6	6	—	—	—	—	—	—
SERC Total	5,559	11,405	8,447	14,692	7,892	14,774	10,082	17,513

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
SPP								
Altus City of	1	1	—	—	—	—	—	—
Arkansas Electric Coop Corp	—	—	0	444	0	529	0	529
Arkansas Power & Light Co	198	209	166	205	162	200	184	222
Bailey County Elec Coop Assn	—	—	7	35	7	35	7	35
C & L Electric Coop Corp	0	10	3	10	5	10	5	10
Carroll Electric Coop Corp	1	8	8	68	9	71	10	85
Central Rural Electric Coop	4	7	4	5	4	4	5	5
Caddo Electric Coop Inc	3	13	10	14	10	14	10	14
Cookson Hills Elec Coop Inc	5	22	6	23	6	23	8	29
Cotton Electric Coop Inc	0	*	0	7	0	7	0	7
Craighead Electric Coop Corp	7	23	6	25	7	25	8	29
Dixie Electric Membership Corp	13	15	—	—	—	—	—	—
Duncan City of	1	1	*	*	*	*	*	*
Empire District Electric Co	0	21	25	25	26	26	26	26
First Electric Coop Corp	15	32	20	46	20	46	24	59
Golden Spread Elec Coop Inc	0	44	0	44	0	44	0	44
Gulf States Utilities Co	1	125	1	126	1	128	2	210
Independence City of	1	3	2	4	4	4	6	7
Indian Electric Coop Inc	3	8	3	8	3	8	4	10
Kansas Electric Power Coop Inc	*	15	8	30	0	23	0	29
Kansas City Power & Light Co	6	17	19	22	22	22	17	17
KG&E Western Resources Co	15	160	15	147	15	147	15	170
Mississippi Cnty Elec Coop Inc	1	2	1	311	2	364	162	447
North Arkansas Elec Coop Inc	5	5	5	5	5	5	5	5
Northeast Louisiana Power Coop	—	—	3	3	0	0	0	0
Oklahoma Gas & Electric Co	225	425	239	439	245	445	285	602
Osceola City of	3	3	3	3	3	3	5	5
Ozark Electric Coop Inc	2	2	2	2	2	2	2	2
People's Electric Coop	3	7	—	—	—	—	—	—
Petit Jean Electric Coop Corp	3	3	3	3	2	2	2	2
Public Service Co of Oklahoma	0	84	116	116	112	112	155	155
Red River Valley Rrl Elec Assn	5	7	5	8	5	8	6	9
South Central Ark El Coop Inc	—	—	4	4	6	7	7	8
South Plains Electric Power Co	10	23	10	24	12	24	23	41
Southwestern Electric Power Co	50	69	90	90	93	93	146	146
Southwestern Public Service Co	3	279	24	242	27	295	44	534
Verdigris Valley Elec Coop Inc	11	14	11	14	11	14	11	14
Western Farmers Elec Coop Inc	0	52	0	50	0	50	0	50
White River Valley El Coop Inc	—	—	7	15	12	15	14	16
Woodruff Electric Coop Corp	25	43	33	54	33	55	36	59
Western Resources Inc	3	173	30	177	30	177	74	221
SPP Total	624	1,925	889	2,846	901	3,034	1,309	3,850
WSCC(U.S.)								
Alameda City of	1	1	1	2	2	2	2	2
Anaheim City of	2	19	5	22	10	30	25	56
Arizona Electric Pwr Coop Inc	0	0	1	1	3	3	10	10
Arizona Public Service Co	441	580	580	589	611	621	680	695
Ashland City of	*	*	0	0	0	0	0	0
PUD No 1 of Benton County	15	15	—	—	—	—	—	—
Bonneville Power Admin	205	574	95	177	70	228	648	843
Bountiful City City of	7	7	7	7	7	7	1	7
PUD No 1 of Chelan County	27	27	20	20	32	32	32	32
Colton City of	*	*	*	*	*	*	*	*
El Paso Electric Co	24	24	44	44	69	69	94	94
Eugene City of	29	29	—	—	—	—	—	—
Fort Collins City of	5	16	5	16	5	16	15	26
Idaho Power Co	25	25	26	26	43	43	115	115
Imperial Irrigation District	3	8	8	8	18	18	20	20
La Plata Electric Assn Inc	0	2	0	3	0	1	0	33
PUD No 1 of Lewis County	*	*	—	—	—	—	—	—
Logan City of	3	4	—	—	—	—	—	—
Longmont City of	4	6	4	7	2	3	3	4
Los Angeles City of	25	101	71	83	78	90	122	198

See footnotes at end of table.

Table 18. U.S. Electric Utility Actual and Potential Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Utility, 1992, 1993, 1994, and 1998 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Historical Reductions				Projected Reductions			
	1992		1993		1994		1998	
	Actual	Potential	Actual	Potential	Actual	Potential	Actual	Potential
WSCC(U.S.) (Continued)								
Loveland City of	2	8	2	8	2	2	2	2
Modesto Irrigation District	8	13	16	16	14	14	22	22
Montana Power Co	13	77	26	94	47	115	123	123
Navopache Electric Coop Inc	5	15	8	15	8	15	9	17
Nevada Power Co	116	250	80	154	114	213	154	269
Overton Power District No 5	—	—	1	1	1	1	2	2
Pacific Gas & Electric Co	789	865	837	909	1,183	1,255	1,156	1,229
PacifiCorp	0	300	0	300	0	371	0	371
Palo Alto City of	6	9	6	9	7	9	9	11
Pasadena City of	2	2	3	3	6	6	18	18
PUD No 2 of Grant County	3	3	—	—	—	—	—	—
Port Angeles City of	*	*	—	—	—	—	—	—
Portland General Electric Co	0	0	0	0	0	0	36	36
Public Service Co of Colorado	145	191	122	251	206	254	372	430
Puget Sound Power & Light Co	0	13	0	41	0	46	0	51
Redding City of	4	6	26	26	27	27	38	38
Riverside City of	5	6	6	7	6	7	7	8
Roseville City of	1	6	2	8	2	8	3	10
Sacramento Municipal Util Dist	281	281	309	309	353	353	548	548
Salt River Proj Ag I & P Dist	92	158	112	188	7	82	76	160
San Diego Gas & Electric Co	68	68	57	57	29	29	23	23
Santa Clara City of	8	8	8	8	8	8	8	8
Seattle City of	0	0	38	38	49	49	81	81
Sierra Pacific Power Co	40	40	31	31	38	38	84	84
PUD No 1 of Snohomish County	48	48	—	—	—	—	—	—
Southern California Edison Co	1,316	2,695	1,487	3,020	1,603	3,209	2,035	3,904
Springfield City of	*	*	1	1	*	*	2	2
Sulphur Springs Valley E C Inc	3	3	3	3	2	2	4	4
Tacoma City of	31	31	0	0	0	0	0	0
Trico Electric Coop Inc	—	—	1	3	0	0	0	0
Turlock Irrigation District	5	5	7	7	6	6	12	12
Black Hills Corp	10	17	12	17	13	18	17	24
Vera Irrigation District #15	7	8	7	8	*	*	*	*
Vernon City of	7	13	8	14	9	12	9	12
Washington Water Power Co	48	48	103	103	136	136	184	184
Yellowstone Vily Elec Coop Inc	*	*	4	4	5	5	9	9
Mohave Electric Coop Inc	5	10	1	1	1	1	1	1
Tucson Electric Power Co	6	6	20	20	25	25	58	58
Northern California Power Agny	11	12	—	—	—	—	—	—
WSCC(U.S.) Total	3,902	6,653	4,210	6,677	4,856	7,479	6,868	9,886
Contiguous U.S.	17,194	32,419	23,057	39,483	25,253	42,194	36,235	55,092
ASCC								
Alaska Electric Light&Power Co	6	6	7	7	5	5	5	5
Golden Valley Elec Assn Inc	*	*	*	*	1	1	3	3
ASCC Total	7	7	7	7	6	6	8	8
Hawaii								
Hawaii Electric Light Co Inc	—	—	*	*	1	1	6	6
Mauie Electric Co Ltd	3	16	2	14	2	15	8	23
Hawaiian Electric Co Inc	1	1	3	3	3	3	34	34
Hawaii Total	4	17	5	18	7	19	48	63
U.S. Total	17,204	32,442	23,069	39,508	25,266	42,220	36,291	55,163

* Value less than 0.5.

Notes: *Data are final. *Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. *Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
ECAR						
Appalachian Power Co	14	0	132	0	0	146
Cincinnati Gas & Electric Co	6	0	17	0	0	22
Cleveland Electric Illum Co	4	0	0	1	0	6
Columbus Southern Power Co	2	0	20	3	2	27
Consumers Power Co	110	1	20	*	4	135
Dayton Power & Light Co	16	0	0	0	0	16
Detroit Edison Co	19	6	0	0	0	25
East Kentucky Power Coop Inc	9	0	0	2	0	11
Buckeye Power Inc	0	87	32	0	0	119
Hendricks County Rural E M C	0	4	*	0	0	4
Indianapolis Power & Light Co	*	0	0	0	14	14
Indiana Michigan Power Co	1	0	29	7	*	37
Kentucky Utilities Co	7	0	0	3	9	20
Kingsport Power Co	1	0	0	0	0	1
Lansing City of	0	0	0	*	0	*
Louisville Gas & Electric Co	0	0	64	0	0	64
Monongahela Power Co	68	0	0	8	0	76
Ohio Edison Co	8	0	244	0	0	252
Ohio Power Co	3	0	99	16	1	120
Owen Electric Coop Inc	1	0	0	0	0	1
Pennsylvania Power Co	0	0	40	0	0	40
Potomac Edison Co	158	0	0	0	0	158
PSI Energy Inc	47	0	30	0	0	76
Southern Indiana Gas & Elec Co	4	9	0	0	0	13
South Central Power Co	0	25	0	0	0	25
Toledo Edison Co	3	0	0	1	0	5
Utilities Dist-Western IN REMC	8	0	0	3	0	11
Virginia Tech Electric Service	0	0	0	2	0	2
Wadsworth City of	0	0	8	0	0	8
West Penn Power Co	81	0	0	65	0	145
Wheeling Power Co	1	0	0	2	0	3
Wolverine Pwr Supply Coop Inc	0	8	0	0	0	8
Kentucky Power Co	2	0	33	0	0	35
Wabash Valley Power Assn Inc	0	40	0	0	0	40
American Mun Power-Ohio Inc	0	0	5	1	0	6
ECAR Total	573	179	773	115	31	1,671
ERCOT						
Austin City of	207	3	0	0	2	212
Brazos Electric Power Coop Inc	1	0	0	0	0	1
Bryan City of	6	0	4	0	0	9
Central Power & Light Co	57	0	0	0	14	71
Denton City of	*	2	0	1	0	3
Garland City of	0	6	8	0	0	14
Georgetown City of	*	0	0	0	0	*
Greenville Electric Util Sys	0	0	2	0	1	3
Guadalupe Valley Elec Coop Inc	0	5	50	6	0	61
Houston Lighting & Power Co	48	0	0	0	0	48
Johnson County Elec Coop Assn	*	0	0	2	0	2
Lower Colorado River Authority	72	20	0	0	0	92
Magic Valley Electric Coop Inc	*	0	0	0	0	*
Medina Electric Coop Inc	0	0	0	6	0	6
San Bernard Electric Coop Inc	*	6	4	4	0	14
Tri-County Electric Coop Inc	2	0	0	0	0	2
West Texas Utilities Co	0	0	39	0	0	39
San Marcos City of	3	*	0	0	0	3
Texas-New Mexico Power Co	11	0	8	0	0	19
Texas Utilities Electric Co	541	0	0	273	0	814
ERCOT Total	949	42	114	291	17	1,414
MAAC						
A & N Electric Coop	0	1	0	0	0	1
Atlantic City Electric Co	24	30	22	18	0	94
Baltimore Gas & Electric Co	59	0	0	0	0	59
Choptank Electric Coop Inc	0	0	0	1	4	5
Conowingo Power Co	*	3	0	0	0	3
Delmarva Power & Light Co	12	101	45	4	0	162
Delaware Electric Coop Inc	0	6	0	0	0	6
Easton Utilities Comm	*	0	0	0	0	*

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
MAAC						
Jersey Central Power&Light Co	29	39	72	2	2	144
Metropolitan Edison Co	29	0	63	183	0	276
Pennsylvania Electric Co	51	0	0	0	0	51
Pennsylvania Power & Light Co	11	0	156	0	0	167
Philadelphia Electric Co	4	40	0	1	0	45
Potomac Electric Power Co	46	0	0	131	0	177
Public Service Electric&Gas Co	33	53	158	0	0	244
Southern Maryland El Coop Inc	2	30	0	0	0	32
Somerset Rural Elec Coop Inc	0	1	0	0	0	1
Adams Electric Coop Inc	*	7	0	0	1	8
Bedford Rural Elec Coop Inc	0	2	0	*	0	2
Valley Rural Electric Coop Inc	0	3	0	0	0	3
Central Electric Coop Inc	0	4	0	0	0	4
Claverack Rural Elec Coop Inc	0	5	0	0	0	5
Northwestern Rural E C A Inc	0	5	0	0	0	5
MAAC Total	301	329	516	340	7	1,493
MAIN						
Boone Electric Coop	0	2	0	0	0	2
Central Illinois Light Co	0	*	62	0	0	62
Coles-Moultrie Electric Coop	0	3	5	0	0	8
Columbia City of	2	6	0	0	0	7
Commonwealth Edison Co	3	*	0	20	0	23
Corn Belt Electric Coop Inc	0	0	3	0	4	6
Cuivre River Electric Coop Inc	1	3	3	0	0	6
Eastern Illini Electric Coop	2	4	4	0	0	10
Illinois Power Co	5	0	0	0	0	5
Madison Gas & Electric Co	24	0	6	0	0	30
Manitowoc Public Utilities	2	0	0	0	0	2
Marshfield City of	1	0	0	0	0	1
Shelby Electric Coop Inc	0	0	8	0	0	8
Southwestern Electric Coop Inc	10	15	1	0	0	25
Springfield City of	5	0	0	0	0	5
Tri-County Electric Coop Inc	0	2	10	0	0	12
Union Electric Co	0	0	145	0	0	145
Wisconsin Electric Power Co	298	27	0	10	0	336
Wisconsin Power & Light Co	54	0	0	0	0	54
Wisconsin Public Power Inc Sys	7	0	0	0	0	7
Wisconsin Public Service Corp	82	0	0	9	0	91
MAIN Total	494	60	247	39	4	844
MAPP(U.S.)						
Ames City of	0	*	0	0	0	*
Anoka City of	0	*	0	0	0	*
Austin City of	*	*	5	0	0	5
Barron Electric Coop	*	6	0	0	0	6
Beatrice City of	0	4	0	0	0	4
Cedar Falls City of	5	0	0	0	0	5
Central Iowa Power Coop	5	0	0	0	0	5
Central Power Elec Coop Inc	0	15	0	0	0	15
Clark Electric Coop	*	4	0	0	0	4
Coop Power Assn	2	0	0	0	0	2
Cornhusker Public Power Dist	0	6	0	0	0	6
Dawson County Public Pwr Dist	0	0	*	0	0	*
East River Elec Power Coop Inc	0	43	0	0	0	43
Fairmont Public Utilities Comm	*	0	0	0	*	*
Freeborn-Mower Electric Coop	*	3	0	0	0	3
Grant-Lafayette Electric Coop	*	5	*	*	0	5
IES Utilities Inc	9	3	70	96	0	178
Interstate Power Co	7	6	25	0	0	38
Iowa Lakes Electric Coop	5	1	1	2	3	12
L & O Power Coop	0	2	0	0	0	2
Lincoln Electric System	1	0	0	*	0	1
Marshall City of	*	3	0	0	0	3
MDU Resources Group Inc	0	7	0	0	0	7
Nodak Electric Coop Inc	0	61	0	0	0	61
Midland Power Coop	*	0	0	0	0	*
Minnesota Power & Light Co	5	10	0	0	0	16

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
MAPP(U.S.)						
Minnkota Power Coop Inc	0	285	0	0	0	285
Moorhead City of	*	10	2	0	*	12
Nebraska Public Power District	0	2	0	4	0	7
Norris Public Power District	0	1	0	0	0	1
North Platte City of	0	4	2	1	0	7
Northern States Power Co	90	19	11	7	0	126
Northern States Power Co	226	68	355	43	0	691
Northwest Iowa Power Coop	7	0	0	0	0	7
Northwestern Public Service Co	0	0	*	0	0	*
Oakdale Electric Coop	*	4	0	0	0	4
Oliver-Mercer Elec Coop Inc	0	2	0	0	0	2
Omaha Public Power District	2	0	0	0	0	2
Otter Tail Power Co	7	0	22	56	5	90
Owatonna City of	0	4	5	0	0	9
People's Coop Power Assn	*	4	0	0	0	4
Pella City of	0	*	0	0	0	*
Pierre City of	1	4	*	0	0	5
Polk-Burnett Electric Coop	0	8	0	0	0	8
Rochester Public Utilities	*	2	5	0	*	8
Roseau Electric Coop Inc	0	19	0	0	0	19
Runestone Electric Assn	*	3	2	0	*	6
Shakopee Public Utilities Comm	0	0	1	0	0	1
Superior Water Light&Power Co	*	0	0	*	*	*
Tri-County Electric Coop	*	9	0	0	0	9
United Power Assn	*	46	0	60	0	106
Verendrye Electric Coop Inc	2	2	0	0	0	4
Vernon Electric Coop	*	7	0	0	0	7
Mountrail-Williams El Coop Inc	3	2	0	0	0	5
Wild Rice Electric Coop Inc	0	19	0	0	0	19
Municipal Energy Agency of NE	5	14	*	1	0	20
Midwest Power Systems Inc	30	25	121	0	4	179
Cass County Electric Coop Inc	*	52	6	0	0	57
MAPP(U.S.) Total	413	793	632	270	12	2,121
NPCC(U.S.)						
Bangor Hydro-Electric Co	7	1	0	0	0	7
Blackstone Valley Electric Co	11	0	0	1	0	12
Boston Edison Co	88	0	13	0	0	101
Braintree Town of	*	1	2	0	0	3
Burlington City of	3	0	0	0	0	3
Cambridge Electric Light Co	5	0	1	0	0	6
Central Hudson Gas & Elec Corp ..	23	0	0	*	0	23
Central Maine Power Co	67	17	0	0	0	84
Central Vermont Pub Serv Corp	10	110	0	2	0	122
Chicopee City of	1	0	0	0	0	1
Citizens Utilities Co	*	*	7	0	0	7
Commonwealth Electric Co	14	0	6	0	0	19
Concord Electric Co	1	0	0	0	0	1
Connecticut Light & Power Co	235	18	14	0	0	267
Connecticut Valley Elec Co Inc	*	0	0	5	0	5
Consolidated Edison Co-NY Inc	145	0	39	0	0	184
Eastern Edison Co	19	0	0	7	0	25
Exeter & Hampton Electric Co	1	0	0	0	0	1
Fitchburg Gas & Elec Light Co	2	0	0	0	0	2
Green Mountain Power Corp	8	7	0	0	0	15
Holyoke City of	1	0	0	0	*	1
Hingham City of	*	2	1	0	*	4
Jamestown City of	*	0	0	0	0	*
Long Island Lighting Co	131	0	64	0	0	194
Maine Public Service Co	1	0	0	0	*	1
Massachusetts Electric Co	142	5	0	0	0	147
Massena Town of	*	1	0	0	0	1
Montaup Electric Co	32	0	0	0	0	32
Narragansett Electric Co	54	2	0	0	0	56
New Hampshire Elec Coop Inc	2	16	13	*	0	31
New York State Elec & Gas Corp ..	155	0	3	0	0	157
Newport Electric Corp	2	0	0	0	0	2

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
NPCC(U.S.)						
Niagara Mohawk Power Corp	135	0	0	0	0	135
Norwood City of	*	*	*	0	0	1
Orange & Rockland Utils Inc	51	1	47	0	0	98
Power Authority of State of NY	33	0	0	0	0	33
Public Service Co of NH	*	0	0	0	0	*
Reading Town of	*	0	6	0	0	6
Rochester Gas & Electric Corp	48	0	0	1	0	49
Shrewsbury Town of	*	1	*	1	0	3
Taunton City of	4	0	0	0	0	4
United Illuminating Co	33	8	13	1	*	57
Omya Inc	*	0	0	0	0	*
Western Massachusetts Elec Co	48	11	0	0	0	59
Granite State Electric Co	8	*	0	0	0	8
NPCC(U.S.) Total	1,520	201	228	18	*	1,968
SERC						
Aiken Electric Coop Inc	0	3	0	0	1	4
Alabama Electric Coop Inc	5	0	0	0	1	6
Alabama Power Co	68	0	0	16	0	84
Albemarle City of	0	*	*	0	0	*
Altamaha Electric Member Corp	*	3	*	0	*	3
Amicalola Electric Member Corp	*	1	0	0	0	1
Athens City of	0	0	0	2	0	2
BARC Electric Coop Inc	0	2	0	0	0	2
Berkeley Electric Coop Inc	4	16	0	0	1	21
Black River Electric Coop Inc	1	2	0	0	0	4
Bristol City of	0	12	12	0	3	27
Canoochee Electric Member Corp ..	0	2	0	0	0	2
Carolina Power & Light Co	976	162	100	124	0	1,362
Carroll Electric Member Corp	*	5	0	8	0	13
Carteret-Craven El Member Corp	0	7	*	*	0	7
Central Florida Elec Coop Inc	0	2	0	0	0	2
Central Georgia El Member Corp	1	15	0	0	0	16
Central Electric Member Corp	*	2	1	0	0	3
Clay Electric Coop Inc	0	47	0	7	0	54
Coast Electric Power Assn	0	0	0	26	0	26
Coastal Electric Member Corp	1	2	0	*	0	3
Cobb Electric Membership Corp	10	41	0	0	0	51
Community Electric Coop	0	2	0	0	0	2
Coweta-Fayette El Member Corp	19	13	0	0	0	32
Crescent Electric Member Corp	0	14	2	*	0	16
Davidson Electric Member Corp	0	5	0	0	0	5
Dothan City of	0	0	1	0	15	17
Douglas City of	*	1	1	*	0	3
Duke Power Co	45	0	0	0	0	45
East Point City of	0	3	0	0	0	3
Fairfield Electric Coop Inc	*	5	*	0	0	5
Fayetteville Public Works Comm	1	0	0	0	0	1
Fitzgerald Wtr Lgt & Bond Comm ..	0	1	0	0	0	1
Flint Electric Membership Corp	2	42	0	0	*	44
Florida Keys El Coop Assn Inc	0	1	0	0	0	1
Florida Power & Light Co	788	543	0	0	0	1,331
Florida Power Corp	215	0	0	0	7	222
Fort Pierce Utilities Auth	*	0	0	0	0	*
Four County Elec Member Corp	*	7	17	0	0	24
Gainesville Regional Utilities	14	0	0	0	2	16
GreyStone Power Corp	0	15	3	0	0	18
Georgia Power Co	34	2	343	0	0	380
Grady County Elec Member Corp ...	1	3	1	0	1	5
Greenville Utilities Comm	4	7	14	0	6	31
Griffin City of	0	2	0	0	0	2
Gulf Power Co	141	0	0	0	0	141
Harrisonburg City of	*	0	2	4	0	6
Hart Electric Member Corp	*	5	0	0	0	6
Haywood Electric Member Corp	*	*	*	0	0	*
High Point Town of	0	4	0	2	2	8

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
SERC						
Jackson Electric Member Corp	5	34	3	0	0	42
Jacksonville Electric Auth	21	0	0	0	0	21
Jefferson Electric Member Corp	1	8	3	0	0	12
Jones-Onslow Elec Member Corp ..	0	10	2	0	0	12
Kinston City of	0	1	4	4	0	9
Kissimmee Utility Authority	2	0	0	0	0	2
Lakeland City of	*	63	0	0	0	63
Lamar Electric Membership Corp	0	0	0	1	0	1
Laurens Electric Coop Inc	*	0	0	0	*	*
Laurinburg City of	0	2	*	0	0	2
Lawrenceville City of	0	4	1	0	0	4
Lee County Electric Coop Inc	4	41	2	0	0	47
Leesburg City of	0	0	3	4	0	7
Lumbee River Elec Member Corp ..	0	7	3	0	0	10
Lumberton City of	0	*	0	0	0	*
Lynches River Elec Coop Inc	0	2	0	0	1	2
Manassas City of	0	2	0	16	0	18
Marietta City of	0	2	0	0	0	2
Mecklenburg Electric Coop Inc	0	6	*	0	3	9
Mid-Carolina Electric Coop Inc	0	4	0	2	0	6
Mississippi Power Co	*	0	0	0	0	*
Monroe City of	0	1	0	1	0	3
New Bern City of	0	5	0	0	0	5
New River Light & Power Co	0	1	0	0	0	1
North Carolina Mun Power Agny	0	20	7	31	0	58
Northern Virginia Elec Coop	1	20	5	0	0	26
North Carolina Eastern M P A	0	39	14	34	0	86
Northern Neck Elec Coop Inc	0	2	0	0	0	2
Ocala City of	6	0	1	*	0	6
Orangeburg City of	0	0	2	2	0	5
Palmetto Electric Coop Inc	*	3	4	2	0	8
Orlando Utilities Comm	18	0	0	0	0	18
Pee Dee Electric Member Corp	0	*	0	0	0	*
Piedmont Electric Member Corp	0	11	3	0	0	14
Prince George Electric Coop	0	1	0	0	0	1
Pulaski City of	0	15	0	0	0	15
Randolph Electric Member Corp	0	6	6	0	0	12
Rayle Electric Membership Corp	*	1	1	0	0	2
Reedy Creek Improvement Dist	2	0	0	0	0	2
Rock Hill City of	0	1	0	7	0	8
Rocky Mount City of	0	*	0	4	14	18
Rutherford Elec Member Corp	0	14	0	0	0	14
Satilla Rural Elec Member Corp	1	8	0	0	0	9
Sawnee Electric Members Corp	*	14	0	1	0	15
Shenandoah Valley Elec Coop	0	7	1	*	0	8
Singing River Elec Power Assn	2	0	0	1	0	3
South Carolina Electric&Gas Co	90	0	53	0	0	143
South Carolina Pub Serv Auth	17	8	129	0	0	155
South Mississippi El Pwr Assn	3	0	0	30	0	33
Snapping Shoals El Member Corp ..	0	7	0	0	0	7
Sumter Electric Coop Inc	5	15	11	0	0	31
Tallahassee City of	25	0	0	0	33	59
Tampa Electric Co	217	168	100	4	0	489
Tennessee Valley Authority	516	70	1,800	0	0	2,386
Thomasville City of	*	4	0	*	0	5
Tri-County Elec Member Corp	0	2	1	0	0	3
Tideland Electric Member Corp	0	6	2	0	0	7
Union Electric Membership Corp	0	8	*	0	0	8
Virginia Electric & Power Co	57	3	108	38	0	206
Wake Electric Membership Corp	3	7	9	0	0	18
Walton Electric Member Corp	*	15	0	0	5	21
Washington City of	0	4	2	0	0	5
Washington Elec Member Corp	0	1	0	4	0	4
Withlacoochee River Elec Coop	0	1	0	28	0	29
York Electric Coop Inc	1	0	0	31	0	32
Southside Electric Coop Inc	0	6	5	5	0	15
Brunswick Electric Member Corp	*	14	2	0	0	16

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
SERC						
Colquitt Electric Members Corp	0	22	0	0	0	22
Central Electric Pwr Coop Inc	0	37	0	0	17	53
Rappahannock Electric Coop	0	20	10	0	5	35
SERC Total	3,329	1,770	2,792	439	115	8,447
SPP						
Arkansas Power & Light Co	0	114	52	0	0	166
Bailey County Elec Coop Assn	0	0	7	0	0	7
C & L Electric Coop Corp	0	0	3	0	0	3
Carroll Electric Coop Corp	0	8	0	0	0	8
Central Rural Electric Coop	0	4	0	0	0	4
Caddo Electric Coop Inc	0	10	0	0	0	10
Cookson Hills Elec Coop Inc	0	6	0	0	0	6
Craighead Electric Coop Corp	0	0	6	0	1	6
Duncan City of	*	0	0	0	0	*
Empire District Electric Co	0	0	25	0	0	25
First Electric Coop Corp	4	15	0	2	0	20
Gulf States Utilities Co	1	0	0	0	0	1
Independence City of	2	0	0	0	0	2
Indian Electric Coop Inc	0	3	0	0	0	3
Kansas Electric Power Coop Inc	0	0	8	0	0	8
Kansas City Power & Light Co	0	6	13	0	0	19
Kansas Gas & Electric Co	0	0	0	0	15	15
Mississippi Cnty Elec Coop Inc	0	1	0	0	0	1
North Arkansas Elec Coop Inc	0	5	0	0	0	5
Northeast Louisiana Power Coop	0	0	0	0	3	3
Oklahoma Gas & Electric Co	72	139	0	28	0	239
Osceola City of	0	0	3	0	0	3
Ozark Electric Coop Inc	0	2	0	0	0	2
Petit Jean Electric Coop Corp	0	2	*	0	0	3
Public Service Co of Oklahoma	0	0	112	4	0	116
Red River Valley Rrl Elec Assn	*	0	4	0	1	5
South Central Ark El Coop Inc	0	4	0	0	0	4
South Plains Electric Coop Inc	1	9	0	0	0	10
Southwestern Electric Power Co	8	0	82	0	0	90
Southwestern Public Service Co	24	0	0	0	0	24
Verdigris Valley Elec Coop Inc	0	10	1	0	0	11
White River Valley El Coop Inc	0	0	7	0	0	7
Woodruff Electric Coop Corp	0	31	0	2	0	33
Western Resources Inc	0	26	0	0	4	30
SPP Total	111	395	323	36	23	889
WSCC(U.S.)						
Alameda City of	1	0	0	0	0	1
Anaheim City of	5	0	0	0	0	5
Arizona Electric Pwr Coop Inc	1	0	0	0	0	1
Arizona Public Service Co	399	0	144	37	0	580
Bonneville Power Admin	0	0	95	0	0	95
Bountiful City City of	*	0	7	0	0	7
PUD No 1 of Chelan County	0	0	20	0	0	20
Colton City of	0	*	0	0	0	*
El Paso Electric Co	6	0	34	4	0	44
Fort Collins City of	0	2	0	3	0	5
Idaho Power Co	26	0	0	0	0	26
Imperial Irrigation District	4	0	0	0	4	8
Longmont City of	1	2	0	*	2	4
Los Angeles City of	60	0	0	11	0	71
Loveland City of	*	0	0	1	1	2
Modesto Irrigation District	4	11	0	0	0	16
Montana Power Co	26	0	0	0	0	26
Navopache Electric Coop Inc	*	*	0	6	2	8
Nevada Power Co	32	37	7	4	0	80
Overton Power District No 5	1	0	0	0	0	1
Pacific Gas & Electric Co	322	0	503	12	0	837
Palo Alto City of	6	0	0	0	0	6
Pasadena City of	2	1	0	0	0	3
Public Service Co of Colorado	36	0	86	0	0	122

See footnotes at end of table.

Table 19. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total DSM Programs ¹
WSCC(U.S.)						
Redding City of	22	1	2	2	0	26
Riverside City of	2	0	0	4	*	6
Roseville City of	*	1	0	0	0	2
Sacramento Municipal Util Dist	62	116	60	22	49	309
Salt River Proj Ag I & P Dist	65	1	0	0	46	112
San Diego Gas & Electric Co	25	0	28	3	*	57
Santa Clara City of	0	0	8	0	0	8
Seattle City of	38	0	0	0	0	38
Sierra Pacific Power Co	31	0	0	0	0	31
Southern California Edison Co	1,366	0	0	121	0	1,487
Springfield City of	1	0	0	0	0	1
Sulphur Springs Valley E C Inc	1	2	0	0	0	3
Trico Electric Coop Inc	0	0	1	0	0	1
Turlock Irrigation District	7	0	0	0	0	7
Black Hills Corp	1	2	1	8	0	12
Vera Irrigation District #15	*	7	0	0	0	7
Vernon City of	0	0	0	8	1	8
Washington Water Power Co	103	0	0	0	0	103
Yellowstone Vily Elec Coop Inc	0	0	0	4	0	4
Mohave Electric Coop Inc	1	0	0	0	0	1
Tucson Electric Power Co	14	0	5	0	0	20
WSCC(U.S.) Total	2,671	183	1,003	250	104	4,210
Contiguous U.S.	10,363	3,953	6,628	1,799	315	23,057
ASCC						
Alaska Electric Light&Power Co	0	2	0	4	0	7
Golden Valley Elec Assn Inc	*	0	0	0	0	*
ASCC Total	*	2	0	4	0	7
Hawaii						
Hawaii Electric Light Co Inc	*	0	0	0	0	*
Maui Electric Co Ltd	2	0	0	0	0	2
Hawaiian Electric Co Inc	3	0	0	0	0	3
Hawaii Total	5	0	0	0	0	5
U.S. Total	10,368	3,955	6,628	1,803	315	23,069

¹ Represents the sum of the achieved reductions in the annual peak load attributable to direct load control, interruptible load, energy efficiency, other load management, and other demand-side management; whereas, in the *Electric Power Annual, 1992*, 1992 and 1991 peakload reductions attributable to energy efficiency, other load management, and other demand-side management were reported together under conservation and other programs.

* Value less than 0.5.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •These data reflect actual real changes in the demand for electricity at the time of annual peak load, as opposed to the installed peakload reduction capability (i.e., Potential Peakload Reduction). •Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
ECAR						
Appalachian Power Co	Investor-Owned	14	0	132	0	146
Cincinnati Gas & Electric Co	Investor-Owned	*	6	17	0	22
Cleveland Electric Illum Co	Investor-Owned	1	1	3	0	6
Columbus Southern Power Co	Investor-Owned	7	0	20	0	27
Consumers Power Co	Investor-Owned	38	40	57	0	135
Dayton Power & Light Co	Investor-Owned	11	2	3	0	16
Detroit Edison Co	Investor-Owned	5	8	13	0	25
East Kentucky Power Coop Inc	Cooperative	11	0	0	0	11
Buckeye Power Inc	Cooperative	87	0	32	0	119
Hendricks County Rural E M C	Cooperative	4	0	*	0	4
Indianapolis Power & Light Co	Investor-Owned	*	4	9	0	14
Indiana Michigan Power Co	Investor-Owned	8	0	29	0	37
Kentucky Utilities Co	Investor-Owned	11	*	0	9	20
Kingsport Power Co	Investor-Owned	1	0	0	0	1
Lansing City of	Publicly Owned	0	*	0	0	*
Louisville Gas & Electric Co	Investor-Owned	0	0	64	0	64
Monongahela Power Co	Investor-Owned	20	24	33	0	76
Ohio Edison Co	Investor-Owned	2	4	247	0	252
Ohio Power Co	Investor-Owned	21	0	99	0	120
Owen Electric Coop Inc	Cooperative	1	*	*	0	1
Pennsylvania Power Co	Investor-Owned	0	0	40	0	40
Potomac Edison Co	Investor-Owned	71	30	58	0	158
PSI Energy Inc	Investor-Owned	9	29	37	0	76
Southern Indiana Gas & Elec Co	Investor-Owned	11	1	1	0	13
South Central Power Co	Cooperative	19	3	4	0	25
Toledo Edison Co	Investor-Owned	1	2	2	0	5
Utilities Dist-Western IN REMC	Cooperative	5	*	5	0	11
Virginia Tech Electric Service	Publicly Owned	*	*	*	1	2
Wadsworth City of	Publicly Owned	0	0	8	0	8
West Penn Power Co	Investor-Owned	14	24	108	0	145
Wheeling Power Co	Investor-Owned	3	0	0	0	3
Wolverine Pwr Supply Coop Inc	Cooperative	8	0	0	0	8
Kentucky Power Co	Investor-Owned	2	0	33	0	35
Wabash Valley Power Assn Inc	Cooperative	40	0	0	0	40
American Mun Power-Ohio Inc	Publicly Owned	0	0	5	1	6
ECAR Total		423	179	1,058	11	1,671
ERCOT						
Austin City of	Publicly Owned	152	60	0	0	212
Brazos Electric Power Coop Inc	Cooperative	1	0	0	0	1
Bryan City of	Publicly Owned	6	4	0	0	9
Central Power & Light Co	Investor-Owned	30	41	0	0	71
Denton City of	Publicly Owned	2	1	0	0	3
Garland City of	Publicly Owned	6	*	8	*	14
Georgetown City of	Publicly Owned	*	*	0	0	*
Greenville Electric Util Sys	Publicly Owned	0	0	3	0	3
Guadalupe Valley Elec Coop Inc	Cooperative	5	*	50	6	61
Houston Lighting & Power Co	Investor-Owned	28	18	2	0	48
Johnson County Elec Coop Assn	Cooperative	*	2	0	0	2
Lower Colorado River Authority	Publicly Owned	69	3	20	0	92
Magic Valley Electric Coop Inc	Cooperative	*	0	0	*	*
Medina Electric Coop Inc	Cooperative	0	0	0	6	6
San Bernard Electric Coop Inc	Cooperative	10	0	4	0	14
Tri-County Electric Coop Inc	Cooperative	2	0	0	0	2
West Texas Utilities Co	Investor-Owned	0	0	39	0	39
San Marcos City of	Publicly Owned	3	1	0	0	3
Texas-New Mexico Power Co	Investor-Owned	11	1	8	0	19
Texas Utilities Electric Co	Investor-Owned	478	336	0	0	814
ERCOT Total		802	467	133	13	1,414
MAAC						
A & N Electric Coop	Cooperative	1	0	0	0	1
Atlantic City Electric Co	Investor-Owned	56	25	13	0	94
Baltimore Gas & Electric Co	Investor-Owned	15	44	*	0	59
Choptank Electric Coop Inc	Cooperative	4	0	1	0	5
Conowingo Power Co	Investor-Owned	3	0	0	0	3
Delmarva Power & Light Co	Investor-Owned	51	66	45	0	162
Delaware Electric Coop Inc	Cooperative	6	0	0	0	6
Easton Utilities Comm	Publicly Owned	*	0	0	0	*

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
MAAC (Continued)						
Jersey Central Power&Light Co	Investor-Owned	50	27	68	0	144
Metropolitan Edison Co	Investor-Owned	90	39	147	0	276
Pennsylvania Electric Co	Investor-Owned	12	10	29	0	51
Pennsylvania Power & Light Co	Investor-Owned	6	2	159	0	167
Philadelphia Electric Co	Investor-Owned	44	1	0	0	45
Potomac Electric Power Co	Investor-Owned	39	138	0	0	177
Public Service Electric&Gas Co	Investor-Owned	66	100	78	0	244
Southern Maryland El Coop Inc	Cooperative	32	0	0	0	32
Somerset Rural Elec Coop Inc	Cooperative	1	0	0	0	1
Adams Electric Coop Inc	Cooperative	8	0	0	*	8
Bedford Rural Elec Coop Inc	Cooperative	2	0	0	0	2
Valley Rural Electric Coop Inc	Cooperative	3	0	0	0	3
Central Electric Coop Inc	Cooperative	4	0	0	0	4
Claverack Rural Elec Coop Inc	Cooperative	5	0	0	0	5
Northwestern Rural E C A Inc	Cooperative	5	0	0	0	5
MAAC Total		502	451	540	*	1,493
MAIN						
Boone Electric Coop	Cooperative	2	0	0	0	2
Central Illinois Light Co	Investor-Owned	*	62	0	0	62
Coles-Moultrie Electric Coop	Cooperative	3	0	5	0	8
Columbia City of	Publicly Owned	5	1	1	0	7
Commonwealth Edison Co	Investor-Owned	2	20	1	0	23
Corn Belt Electric Coop Inc	Cooperative	4	3	0	0	6
Cuivre River Electric Coop Inc	Cooperative	3	3	0	0	6
Eastern Illini Electric Coop	Cooperative	6	0	4	0	10
Illinois Power Co	Investor-Owned	0	5	*	0	5
Madison Gas & Electric Co	Investor-Owned	4	25	0	1	30
Manitowoc Public Utilities	Publicly Owned	1	1	1	0	2
Marshfield City of	Publicly Owned	*	*	*	0	1
Shelby Electric Coop Inc	Cooperative	0	2	6	0	8
Southwestern Electric Coop Inc	Cooperative	20	5	*	0	25
Springfield City of	Publicly Owned	4	1	0	0	5
Tri-County Electric Coop Inc	Cooperative	2	7	3	0	12
Union Electric Co	Investor-Owned	0	0	145	0	145
Wisconsin Electric Power Co	Investor-Owned	136	147	53	0	336
Wisconsin Power & Light Co	Investor-Owned	5	45	4	0	54
Wisconsin Public Power Inc Sys	Publicly Owned	1	2	3	1	7
Wisconsin Public Service Corp	Investor-Owned	33	52	0	6	91
MAIN Total		230	380	226	8	844
MAPP(U.S.)						
Ames City of	Publicly Owned	*	0	0	0	*
Anoka City of	Publicly Owned	*	*	0	0	*
Austin City of	Publicly Owned	*	*	5	0	5
Barron Electric Coop	Cooperative	6	0	0	*	6
Beatrice City of	Publicly Owned	3	1	0	0	4
Cedar Falls City of	Publicly Owned	5	*	*	0	5
Central Iowa Power Coop	Cooperative	4	1	0	0	5
Central Power Elec Coop Inc	Cooperative	5	7	3	0	15
Clark Electric Coop	Cooperative	3	0	0	1	4
Coop Power Assn	Cooperative	*	1	0	0	2
Cornhusker Public Power Dist	Publicly Owned	0	0	6	0	6
Dawson County Public Pwr Dist	Publicly Owned	0	0	*	0	*
East River Elec Power Coop Inc	Cooperative	34	0	9	0	43
Fairmont Public Utilities Comm	Publicly Owned	0	*	0	0	*
Freeborn-Mower Electric Coop	Cooperative	2	0	1	0	3
Grant-Lafayette Electric Coop	Cooperative	4	0	2	0	5
IES Utilities Inc	Investor-Owned	40	24	114	0	178
Interstate Power Co	Investor-Owned	7	2	29	0	38
Iowa Lakes Electric Coop	Cooperative	5	5	1	*	12
L & O Power Coop	Cooperative	2	0	0	0	2
Lincoln Electric System	Publicly Owned	*	1	0	*	1
Marshall City of	Publicly Owned	1	1	1	0	3
MDU Resources Group Inc	Investor-Owned	7	*	0	0	7
Nodak Electric Coop Inc	Cooperative	44	14	2	1	61
Midland Power Coop	Cooperative	*	0	0	0	*
Minnesota Power & Light Co	Investor-Owned	2	1	13	0	16

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
MAPP(U.S.) (Continued)						
Minnkota Power Coop Inc	Cooperative	265	20	0	0	285
Moorhead City of	Publicly Owned	9	*	3	0	12
Nebraska Public Power District	Publicly Owned	0	0	7	0	7
Norris Public Power District	Publicly Owned	0	1	0	0	1
North Platte City of	Publicly Owned	3	1	0	3	7
Northern States Power Co	Investor-Owned	41	85	0	0	126
Northern States Power Co	Investor-Owned	140	278	273	0	691
Northwest Iowa Power Coop	Cooperative	6	*	0	0	7
Northwestern Public Service Co	Investor-Owned	0	*	0	0	*
Oakdale Electric Coop	Cooperative	4	0	0	*	4
Oliver-Mercer Elec Coop Inc	Cooperative	2	0	0	0	2
Omaha Public Power District	Publicly Owned	2	0	0	0	2
Otter Tail Power Co	Investor-Owned	56	25	9	0	90
Owatonna City of	Publicly Owned	3	*	5	0	9
People's Coop Power Assn	Cooperative	4	0	0	*	4
Pella City of	Publicly Owned	*	0	0	0	*
Pierre City of	Publicly Owned	4	1	*	0	5
Polk-Burnett Electric Coop	Cooperative	8	0	0	0	8
Rochester Public Utilities	Publicly Owned	2	2	4	*	8
Roseau Electric Coop Inc	Cooperative	19	0	0	0	19
Runestone Electric Assn	Cooperative	2	2	3	0	6
Shakopee Public Utilities Comm	Publicly Owned	0	1	0	0	1
Superior Water Light&Power Co	Investor-Owned	*	0	0	0	*
Tri-County Electric Coop	Cooperative	9	0	0	*	9
United Power Assn	Cooperative	106	0	0	0	106
Verendrye Electric Coop Inc	Cooperative	4	1	0	0	4
Vernon Electric Coop	Cooperative	6	0	0	1	7
Mountrail-Williams El Coop Inc	Cooperative	5	0	0	0	5
Wild Rice Electric Coop Inc	Cooperative	18	1	0	0	19
Municipal Energy Agency of NE	Publicly Owned	3	9	*	8	20
Midwest Power Systems Inc	Investor-Owned	41	17	121	0	179
Cass County Electric Coop Inc	Cooperative	44	8	6	0	57
MAPP(U.S.) Total		982	508	615	15	2,121
NPCC(U.S.)						
Bangor Hydro-Electric Co	Investor-Owned	5	2	1	0	7
Blackstone Valley Electric Co	Investor-Owned	3	6	4	0	12
Boston Edison Co	Investor-Owned	20	65	17	0	101
Braintree Town of	Publicly Owned	*	*	2	0	3
Burlington City of	Publicly Owned	1	*	1	0	3
Cambridge Electric Light Co	Investor-Owned	*	1	4	0	6
Central Hudson Gas & Elec Corp	Investor-Owned	1	19	3	0	23
Central Maine Power Co	Investor-Owned	32	41	11	0	84
Central Vermont Pub Serv Corp	Investor-Owned	63	31	28	0	122
Chicopee City of	Publicly Owned	1	1	*	0	1
Citizens Utilities Co	Investor-Owned	*	6	1	0	7
Commonwealth Electric Co	Investor-Owned	6	7	6	0	19
Concord Electric Co	Investor-Owned	*	*	*	0	1
Connecticut Light & Power Co	Investor-Owned	99	133	18	17	267
Connecticut Valley Elec Co Inc	Investor-Owned	3	1	2	0	5
Consolidated Edison Co-NY Inc	Investor-Owned	12	173	0	0	184
Eastern Edison Co	Investor-Owned	16	8	1	0	25
Exeter & Hampton Electric Co	Investor-Owned	*	*	*	0	1
Fitchburg Gas & Elec Light Co	Investor-Owned	*	1	1	0	2
Green Mountain Power Corp	Investor-Owned	9	6	0	0	15
Holyoke City of	Publicly Owned	1	0	0	0	1
Hingham City of	Publicly Owned	3	*	1	0	4
Jamestown City of	Publicly Owned	*	*	*	*	*
Long Island Lighting Co	Investor-Owned	35	159	0	0	194
Maine Public Service Co	Investor-Owned	1	*	0	*	1
Massachusetts Electric Co	Investor-Owned	23	109	15	0	147
Massena Town of	Publicly Owned	1	*	0	*	1
Montaup Electric Co	Investor-Owned	12	15	5	0	32
Narragansett Electric Co	Investor-Owned	9	42	6	0	56
New Hampshire Elec Coop Inc	Cooperative	16	15	0	0	31
New York State Elec & Gas Corp	Investor-Owned	70	88	0	0	157
Newport Electric Corp	Investor-Owned	1	2	*	0	2
Niagara Mohawk Power Corp	Investor-Owned	39	85	11	0	135

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
NPCC(U.S.) (Continued)						
Norwood City of	Publicly Owned	*	*	*	0	1
Orange & Rockland Utils Inc	Investor-Owned	21	78	0	0	98
Power Authority of State of NY	Publicly Owned	13	20	0	0	33
Public Service Co of NH	Investor-Owned	*	*	0	0	*
Reading Town of	Publicly Owned	*	6	0	0	6
Rochester Gas & Electric Corp	Investor-Owned	10	16	24	0	49
Shrewsbury Town of	Publicly Owned	1	*	1	*	3
Taunton City of	Publicly Owned	*	4	0	0	4
United Illuminating Co	Investor-Owned	13	18	26	0	57
Omya Inc	Investor-Owned	*	0	0	0	*
Western Massachusetts Elec Co	Investor-Owned	34	21	2	1	59
Granite State Electric Co	Investor-Owned	2	6	1	0	8
NPCC(U.S.) Total		574	1,184	191	19	1,968
SERC						
Aiken Electric Coop Inc	Cooperative	4	0	0	0	4
Alabama Electric Coop Inc	Cooperative	6	0	0	0	6
Alabama Power Co	Investor-Owned	68	16	0	0	84
Albemarle City of	Publicly Owned	*	0	*	0	*
Altamaha Electric Member Corp	Cooperative	2	1	0	*	3
Amicalola Electric Member Corp	Cooperative	1	0	0	0	1
Athens City of	Publicly Owned	0	1	1	0	2
BARC Electric Coop Inc	Cooperative	2	0	0	0	2
Berkeley Electric Coop Inc	Cooperative	19	2	0	0	21
Black River Electric Coop Inc	Cooperative	4	0	0	0	4
Bristol City of	Publicly Owned	12	0	12	3	27
Canoochee Electric Member Corp	Cooperative	1	0	0	1	2
Carolina Power & Light Co	Investor-Owned	341	133	888	0	1,362
Carroll Electric Member Corp	Cooperative	7	*	6	*	13
Carteret-Craven El Member Corp	Cooperative	7	*	0	0	7
Central Florida Elec Coop Inc	Cooperative	2	0	0	0	2
Central Georgia El Member Corp	Cooperative	13	0	2	0	16
Central Electric Member Corp	Cooperative	2	0	1	0	3
Clay Electric Coop Inc	Cooperative	54	0	0	0	54
Coast Electric Power Assn	Cooperative	23	3	0	0	26
Coastal Electric Member Corp	Cooperative	3	0	0	0	3
Cobb Electric Membership Corp	Cooperative	49	0	0	2	51
Community Electric Coop	Cooperative	2	0	0	0	2
Coweta-Fayette El Member Corp	Cooperative	32	0	0	0	32
Crescent Electric Member Corp	Cooperative	14	1	1	*	16
Davidson Electric Member Corp	Cooperative	5	*	0	0	5
Dothan City of	Publicly Owned	4	5	4	4	17
Douglas City of	Publicly Owned	1	1	1	0	3
Duke Power Co	Investor-Owned	36	9	0	0	45
East Point City of	Publicly Owned	1	2	0	0	3
Fairfield Electric Coop Inc	Cooperative	5	*	0	0	5
Fayetteville Public Works Comm	Publicly Owned	1	0	0	0	1
Fitzgerald Wtr Lgt & Bond Comm	Publicly Owned	1	0	0	0	1
Flint Electric Membership Corp	Cooperative	26	12	1	6	44
Florida Keys El Coop Assn Inc	Cooperative	1	*	*	0	1
Florida Power & Light Co	Investor-Owned	836	495	0	0	1,331
Florida Power Corp	Investor-Owned	146	37	22	16	222
Fort Pierce Utilities Auth	Publicly Owned	*	0	0	0	*
Four County Elec Member Corp	Cooperative	7	4	13	0	24
Gainesville Regional Utilities	Publicly Owned	10	6	0	0	16
GreyStone Power Corp	Cooperative	15	3	0	0	18
Georgia Power Co	Investor-Owned	23	28	328	0	380
Grady County Elec Member Corp	Cooperative	4	0	1	0	5
Greenville Utilities Comm	Publicly Owned	14	2	14	0	31
Griffin City of	Publicly Owned	1	1	0	0	2
Gulf Power Co	Investor-Owned	65	76	0	0	141
Harrisonburg City of	Publicly Owned	1	2	4	*	6
Hart Electric Member Corp	Cooperative	6	0	0	0	6
Haywood Electric Member Corp	Cooperative	*	*	*	0	*
High Point Town of	Publicly Owned	2	2	0	3	8
Jackson Electric Member Corp	Cooperative	32	6	3	0	42
Jacksonville Electric Auth	Publicly Owned	17	4	0	0	21
Jefferson Electric Member Corp	Cooperative	8	1	*	3	12

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993
(Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
SERC (Continued)						
Jones-Onslow Elec Member Corp	Cooperative	10	2	1	0	12
Kinston City of	Publicly Owned	1	*	3	5	9
Kissimmee Utility Authority	Publicly Owned	1	*	0	*	2
Lakeland City of	Publicly Owned	56	5	3	0	63
Lamar Electric Membership Corp	Cooperative	0	0	1	*	1
Laurens Electric Coop Inc	Cooperative	*	*	0	0	*
Laurinburg City of	Publicly Owned	2	*	0	0	2
Lawrenceville City of	Publicly Owned	2	1	0	2	4
Lee County Electric Coop Inc	Cooperative	44	3	0	0	47
Leesburg City of	Publicly Owned	4	1	3	0	7
Lumbee River Elec Member Corp	Cooperative	7	0	3	0	10
Lumberton City of	Publicly Owned	*	0	0	0	*
Lynches River Elec Coop Inc	Cooperative	2	0	0	0	2
Manassas City of	Publicly Owned	2	0	0	16	18
Marietta City of	Publicly Owned	2	*	0	0	2
Mecklenburg Electric Coop Inc	Cooperative	6	0	3	0	9
Mid-Carolina Electric Coop Inc	Cooperative	6	0	0	0	6
Mississippi Power Co	Investor-Owned	*	0	0	0	*
Monroe City of	Publicly Owned	1	0	1	0	3
New Bern City of	Publicly Owned	5	0	0	0	5
New River Light & Power Co	Publicly Owned	1	*	0	0	1
North Carolina Mun Power Agny	Publicly Owned	19	2	7	30	58
Northern Virginia Elec Coop	Cooperative	18	2	6	0	26
North Carolina Eastern M P A	Publicly Owned	33	6	17	31	86
Northern Neck Elec Coop Inc	Cooperative	2	*	0	0	2
Ocala City of	Publicly Owned	4	2	1	0	6
Orangeburg City of	Publicly Owned	2	1	2	0	5
Palmetto Electric Coop Inc	Cooperative	5	4	0	0	8
Orlando Utilities Comm	Publicly Owned	17	1	0	0	18
Pee Dee Electric Member Corp	Cooperative	*	0	0	0	*
Piedmont Electric Member Corp	Cooperative	11	*	3	0	14
Prince George Electric Coop	Cooperative	1	0	0	0	1
Pulaski City of	Publicly Owned	15	0	0	0	15
Randolph Electric Member Corp	Cooperative	6	2	4	0	12
Rayle Electric Membership Corp	Cooperative	1	*	1	0	2
Reedy Creek Improvement Dist	Publicly Owned	0	2	0	0	2
Rock Hill City of	Publicly Owned	8	0	0	0	8
Rocky Mount City of	Publicly Owned	5	3	10	0	18
Rutherford Elec Member Corp	Cooperative	14	0	0	0	14
Satilla Rural Elec Member Corp	Cooperative	5	2	0	2	9
Sawnee Electric Members Corp	Cooperative	14	*	1	0	15
Shenandoah Valley Elec Coop	Cooperative	7	1	0	0	8
Singing River Elec Power Assn	Cooperative	2	0	1	0	3
South Carolina Electric&Gas Co	Investor-Owned	62	24	57	0	143
South Carolina Pub Serv Auth	Publicly Owned	25	*	129	0	155
South Mississippi El Pwr Assn	Cooperative	3	0	30	0	33
Snapping Shoals El Member Corp	Cooperative	7	0	0	0	7
Sumter Electric Coop Inc	Cooperative	19	1	11	0	31
Tallahassee City of	Publicly Owned	57	*	0	1	59
Tampa Electric Co	Investor-Owned	362	27	100	0	489
Tennessee Valley Authority	Federal	586	1,800	0	0	2,386
Thomasville City of	Publicly Owned	4	*	0	*	5
Tri-County Elec Member Corp	Cooperative	2	1	0	0	3
Tideland Electric Member Corp	Cooperative	6	2	0	0	7
Union Electric Membership Corp	Cooperative	8	*	0	0	8
Virginia Electric & Power Co	Investor-Owned	16	89	42	59	206
Wake Electric Membership Corp	Cooperative	10	0	9	0	18
Walton Electric Member Corp	Cooperative	21	0	0	0	21
Washington City of	Publicly Owned	4	0	2	0	5
Washington Elec Member Corp	Cooperative	1	0	4	0	4
Withlacoochee River Elec Coop	Cooperative	29	0	0	0	29
York Electric Coop Inc	Cooperative	1	22	9	0	32
Southside Electric Coop Inc	Cooperative	6	0	5	5	15
Brunswick Electric Member Corp	Cooperative	14	2	0	0	16
Colquitt Electric Members Corp	Cooperative	9	1	12	0	22
Central Electric Pwr Coop Inc	Cooperative	53	0	0	0	53
Rappahannock Electric Coop	Cooperative	20	0	15	0	35
SERC Total		3,605	2,860	1,792	190	8,447

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
SPP						
Arkansas Power & Light Co	Investor-Owned	77	23	66	0	166
Bailey County Elec Coop Assn	Cooperative	0	0	7	0	7
C & L Electric Coop Corp	Cooperative	0	0	3	0	3
Carroll Electric Coop Corp	Cooperative	8	*	0	0	8
Central Rural Electric Coop	Cooperative	3	*	1	0	4
Caddo Electric Coop Inc	Cooperative	0	0	10	0	10
Cookson Hills Elec Coop Inc	Cooperative	6	*	0	0	6
Craighead Electric Coop Corp	Cooperative	1	0	6	0	6
Duncan City of	Publicly Owned	*	*	0	0	*
Empire District Electric Co	Investor-Owned	0	0	25	0	25
First Electric Coop Corp	Cooperative	12	2	7	0	20
Gulf States Utilities Co	Investor-Owned	1	*	*	0	1
Independence City of	Publicly Owned	2	0	0	0	2
Indian Electric Coop Inc	Cooperative	2	1	1	0	3
Kansas Electric Power Coop Inc	Cooperative	0	0	8	0	8
Kansas City Power & Light Co	Investor-Owned	6	13	0	0	19
KG&E Western Resources Co	Investor-Owned	0	0	15	0	15
Mississippi Cnty Elec Coop Inc	Cooperative	0	1	0	0	1
North Arkansas Elec Coop Inc	Cooperative	5	0	0	0	5
Northeast Louisiana Power Coop	Cooperative	0	3	0	0	3
Oklahoma Gas & Electric Co	Investor-Owned	191	27	21	0	239
Osceola City of	Publicly Owned	0	0	3	0	3
Ozark Electric Coop Inc	Cooperative	2	0	0	0	2
Petit Jean Electric Coop Corp	Cooperative	2	*	0	0	3
Public Service Co of Oklahoma	Investor-Owned	0	0	116	0	116
Red River Valley Rrl Elec Assn	Cooperative	*	1	4	0	5
South Central Ark El Coop Inc	Cooperative	0	0	4	0	4
South Plains Electric Coop Inc	Cooperative	1	0	0	9	10
Southwestern Electric Power Co	Investor-Owned	8	0	82	0	90
Southwestern Public Service Co	Investor-Owned	22	*	1	0	24
Verdigris Valley Elec Coop Inc	Cooperative	10	0	1	0	11
White River Valley El Coop Inc	Cooperative	0	7	0	0	7
Woodruff Electric Coop Corp	Cooperative	1	0	2	30	33
Western Resources Inc	Investor-Owned	26	0	4	0	30
SPP Total		385	78	386	39	889
WSCC(U.S.)						
Alameda City of	Publicly Owned	*	*	0	1	1
Anaheim City of	Publicly Owned	2	1	2	0	5
Arizona Electric Pwr Coop Inc	Cooperative	*	*	0	0	1
Arizona Public Service Co	Investor-Owned	330	106	144	0	580
Bonneville Power Admin	Federal	0	0	95	0	95
Bountiful City City of	Publicly Owned	0	0	7	0	7
PUD No 1 of Chelan County	Publicly Owned	0	0	20	0	20
Colton City of	Publicly Owned	*	0	0	0	*
El Paso Electric Co	Investor-Owned	0	10	34	0	44
Fort Collins City of	Publicly Owned	2	0	3	0	5
Idaho Power Co	Investor-Owned	16	2	2	5	26
Imperial Irrigation District	Publicly Owned	7	1	0	*	8
Longmont City of	Publicly Owned	1	3	*	*	4
Los Angeles City of	Publicly Owned	26	37	8	0	71
Loveland City of	Publicly Owned	1	0	0	1	2
Modesto Irrigation District	Publicly Owned	13	2	0	0	16
Montana Power Co	Investor-Owned	5	13	0	9	26
Navapache Electric Coop Inc	Cooperative	5	1	1	1	8
Nevada Power Co	Investor-Owned	51	28	1	0	80
Overton Power District No 5	Publicly Owned	*	1	0	*	1
Pacific Gas & Electric Co	Investor-Owned	84	172	535	45	837
Palo Alto City of	Publicly Owned	0	6	0	0	6
Pasadena City of	Publicly Owned	2	2	0	0	3
Public Service Co of Colorado	Investor-Owned	6	29	87	0	122
Redding City of	Publicly Owned	20	4	2	1	26
Riverside City of	Publicly Owned	5	*	*	0	6
Roseville City of	Publicly Owned	2	*	0	0	2
Sacramento Municipal Util Dist	Publicly Owned	168	140	0	1	309
Salt River Proj Ag I & P Dist	Publicly Owned	85	27	*	0	112
San Diego Gas & Electric Co	Investor-Owned	7	50	0	0	57
Santa Clara City of	Publicly Owned	0	0	8	0	8

See footnotes at end of table.

Table 20. U.S. Electric Utility Actual Peakload Reductions by North American Electric Reliability Council Region and Hawaii by Class of Ownership and Sector, 1993 (Megawatts) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Residential	Commercial	Industrial	Other	Total
WSCC(U.S.) (Continued)						
Seattle City of	Publicly Owned	17	16	2	3	38
Sierra Pacific Power Co	Investor-Owned	4	11	17	0	31
Southern California Edison Co	Investor-Owned	360	749	335	43	1,487
Springfield City of	Publicly Owned	1	*	*	0	1
Sulphur Springs Valley E C Inc	Cooperative	*	*	0	2	3
Trico Electric Coop Inc	Cooperative	0	1	0	0	1
Turlock Irrigation District	Publicly Owned	5	1	1	*	7
Black Hills Corp	Investor-Owned	4	*	8	*	12
Vera Irrigation District #15	Publicly Owned	7	0	0	0	7
Vernon City of	Publicly Owned	0	0	8	0	8
Washington Water Power Co	Investor-Owned	97	4	2	0	103
Yellowstone Vly Elec Coop Inc	Cooperative	4	0	0	0	4
Mohave Electric Coop Inc	Cooperative	*	*	0	0	1
Tucson Electric Power Co	Investor-Owned	5	10	5	0	20
WSCC(U.S.) Total		1,342	1,428	1,329	112	4,210
Contiguous U.S.		8,846	7,534	6,270	407	23,057
ASCC						
Alaska Electric Light&Power Co	Investor-Owned	4	3	0	0	7
Golden Valley Elec Assn Inc	Cooperative	*	0	0	0	*
ASCC Total		4	3	0	0	7
Hawaii						
Hawaii Electric Light Co Inc	Investor-Owned	0	*	0	0	*
Maui Electric Co Ltd	Investor-Owned	*	2	0	0	2
Hawaiian Electric Co Inc	Investor-Owned	*	3	0	0	3
Hawaii Total		*	5	0	0	5
U.S. Total		8,851	7,541	6,270	407	23,069

* Value less than 0.5.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours. •Totals may not equal sum of components because of independent rounding. •These data reflect actual real changes in the demand for electricity at the time of annual peak load, as opposed to the installed peakload reduction capability (i.e. Potential Peakload Reduction).

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Cost

Utility costs¹³ for DSM programs are reported by electric utilities using two categories: direct utility costs and indirect utility costs. Direct utility costs are those directly attributable to a specific DSM program category. Indirect utility costs are those incurred by utilities that are not directly attributable to a specific DSM program category. Total utility cost is the summation of direct utility costs and indirect utility costs.

In 1993, total utility cost for large utilities with DSM programs was \$2.7 billion, an increase of 17 percent over 1992 total utility cost of \$2.3 billion.¹⁴ Since 1989, total utility cost has increased \$1.9 billion, at an average annual rate of 33 percent. For 1994, total utility cost was predicated to increase 9 percent to \$3.0 billion and by 1998 to \$3.6 billion (Table 21).

The majority of utilities with DSM programs spent between 0.1 and 1 percent of electric revenues from sales to ultimate consumers on DSM programs. Among large utilities, 10 percent spent less than 0.1 percent of revenues on DSM, 49 percent spent between 0.1 and 1 percent of revenues on DSM, and 40 percent spent more than 1 percent of revenues on DSM. There were 62 cooperatives, 74 investor-owned utilities, and 43 publicly owned utilities that spent more than 1 percent of revenues on DSM. Of the utilities spending between 0.1 and 1 percent, there were 77 publicly owned, 93 cooperatives, and 50 investor-owned utilities (Figure 8).

In 1993, 98 percent of total spending on DSM was made by the 100 utilities reporting the greatest DSM costs. The 50 utilities that spent the most on DSM accounted for 86 percent of the total costs, and the top 25 utilities accounted for 67 percent (Figure 9). These 100, 50, and 25 utilities that had the greatest cost for DSM programs represented 64, 46, and 29 percent, respectively, of total retail sales of electricity in the United States.

In 1993, investor-owned utilities spent the most on DSM, \$2.3 billion, followed by Federally owned utilities, ¹⁵ \$238 million, publicly owned utilities, \$167 million, and cooperatives, \$88 million. Both publicly owned and Federally owned utilities predicted 24-percent increases for 1994. For 1998, investor-owned utilities predicted the greatest increase, 4 percent annually to \$2.8 billion (Table 22).

Direct Utility Costs are those identified specifically with one of the DSM program categories (i.e., energy efficiency, direct load control, interruptible load control, other load management, other DSM programs, or load building). In 1993, direct utility costs for large utilities was \$2.3 billion dollars. Seventy percent of direct utility costs were for energy efficiency programs, amounting to \$1.6 billion (Table 23). Direct costs reported by utilities do not include lost revenue as a result of offering customers interruptible rates.

Among the NERC regions, WSCC had the greatest share of direct utility costs, spending \$653 million, mainly because within the WSCC there were three utilities with direct utility costs over \$100 million. The second largest region was SERC with direct utility costs of \$505 million, where two utilities had nearly \$100 million of direct utility costs each.

Indirect Utility Costs are utility costs that may not be meaningfully identified with any particular DSM program category. Indirect costs could be attributable to one of several accounting cost categories (i.e., Administrative, Marketing, Monitoring and Evaluation, Utility-Earned Incentives,¹⁶ or Other).¹⁷ Indirect utility costs for 1993 were \$454 million, with the greatest portion of these costs for administrative costs and other. Among the NERC regions, SERC had the highest share of indirect utility costs, \$138 million, followed by WSCC with \$104 million (Table 24).

¹³ Utilities are required to report nonutility costs (nonutility costs are those incurred by the consumer, such as installation of an energy efficient appliance, or by the retailer or manufacturer of energy efficient products) but are not included in this report because in many cases it is not possible for utilities to accurately estimate this cost.

¹⁴ Small utilities are not included in this section as they report only total utility cost and not a breakdown into direct and indirect costs.

¹⁵ The large amount of spending reported by Federally owned utilities may be misleading. Both the Tennessee Valley Authority and Bonneville Power Administration encourage utilities to use DSM, and finance their programs.

¹⁶ Utility-Earned Incentives are not included in this publication.

¹⁷ Other costs include the indirect cost of DSM that cannot be attributed to any other cost category, particularly research and development.

Figure 8. U.S. Electric Utility DSM Program Costs as a Percentage of Retail Revenue by Number of Utilities with DSM Costs, 1993

Note: This graph only shows utilities that reported DSM costs.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Figure 9. The Top 25, 50, and 100 U.S. Electric Utilities with the Greatest DSM Program Costs by Class of Ownership, 1993

Note: There are no cooperatives included in the top 25 or 50 electric utilities.

Sources: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 21. U.S. Electric Utility DSM Program Costs by Class of Ownership, 1989 Through 1993, 1994, and 1998
(Thousand Dollars)

Class of Ownership	Historical Costs					Projected Costs	
	1989	1990	1991	1992	1993	1994	1998
Investor-Owned	782,443	1,065,127	1,509,412	1,918,803	2,251,227	2,404,900	2,786,351
Publicly Owned	44,381	74,475	179,767	163,075	166,774	207,616	257,126
Cooperative	41,463	32,055	52,954	81,553	87,818	95,099	127,504
Federal	4,648	5,800	61,640	184,663	237,714	295,357	391,313
U.S. Total	872,935	1,177,457	1,803,773	2,348,094	2,743,533	3,002,972	3,562,294

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
ECAR					
Appalachian Power Co	Investor-Owned	654	1,473	3,764	11,206
Cincinnati Gas & Electric Co	Investor-Owned	1,403	4,188	13,410	17,146
Cleveland Electric Illum Co	Investor-Owned	204	3,416	3,340	9,570
Columbus Southern Power Co	Investor-Owned	1,592	3,069	3,378	9,280
Consumers Power Co	Investor-Owned	32,764	52,566	14,693	50,000
Crawfordsville Elec Lgt&Pwr Co	Publicly Owned	—	9	138	30
Dayton Power & Light Co	Investor-Owned	6,699	25,353	17,700	17,700
Detroit Edison Co	Investor-Owned	2,015	4,096	7,600	9,500
East Kentucky Power Coop Inc	Cooperative	1,900	1,900	1,900	1,900
Buckeye Power Inc	Cooperative	1,940	2,015	2,000	2,490
Hamilton City of	Publicly Owned	—	115	135	140
Hendricks County Rural E M C	Cooperative	—	60	50	50
Indianapolis Power & Light Co	Investor-Owned	2,300	2,557	6,239	10,769
Indiana Michigan Power Co	Investor-Owned	1,703	899	2,090	7,240
Kentucky Utilities Co	Investor-Owned	2,000	2,370	3,952	4,817
Kingsport Power Co	Investor-Owned	310	210	210	902
Lansing City of	Publicly Owned	—	26	63	190
Louisville Gas & Electric Co	Investor-Owned	3,400	4,343	5,847	6,497
Midwest Electric Inc	Cooperative	129	161	170	193
Monongahela Power Co	Investor-Owned	333	457	401	642
Ohio Edison Co	Investor-Owned	32,058	14,851	22,215	12,624
Ohio Power Co	Investor-Owned	2,164	2,696	3,804	10,580
Owen Electric Coop Inc	Cooperative	63	96	114	124
Pennsylvania Power Co	Investor-Owned	3,085	2,909	3,055	3,324
Potomac Edison Co	Investor-Owned	566	1,520	16,901	1,182
PSI Energy Inc	Investor-Owned	18,012	35,399	33,932	30,425
South Kentucky Rural E C C	Cooperative	211	—	—	—
Southern Indiana Gas & Elec Co	Investor-Owned	3,233	5,869	9,737	11,991
South Central Power Co	Cooperative	606	700	758	940
Toledo Edison Co	Investor-Owned	574	1,556	1,520	4,545
Utilities Dist-Western IN REMC	Cooperative	151	262	268	302
Virginia Tech Electric Service	Publicly Owned	5	10	10	10
West Penn Power Co	Investor-Owned	1,825	2,187	5,232	5,805
Wheeling Power Co	Investor-Owned	51	103	103	558
Wolverine Pwr Supply Coop Inc	Cooperative	0	885	772	775
Kentucky Power Co	Investor-Owned	133	16	464	1,957
Wabash Valley Power Assn Inc	Cooperative	8,720	8,695	9,595	10,845
American Mun Power-Ohio Inc	Publicly Owned	100	100	105	180
ECAR Total		130,903	187,137	195,665	256,429
ERCOT					
Austin City of	Publicly Owned	4,764	9,839	11,299	13,794
Brazos Electric Power Coop Inc	Cooperative	261	779	1,015	3,975
Bryan City of	Publicly Owned	269	366	480	800
Central Power & Light Co	Investor-Owned	2,686	6,596	4,907	8,602
Denton City of	Publicly Owned	350	268	493	1,016
Garland City of	Publicly Owned	618	626	614	577
Georgetown City of	Publicly Owned	—	36	40	43
Greenville Electric Util Sys	Publicly Owned	444	19	51	190
Guadalupe Valley Elec Coop Inc	Cooperative	231	158	288	338
Houston Lighting & Power Co	Investor-Owned	17,885	17,922	21,372	21,372
Johnson County Elec Coop Assn	Cooperative	57	119	138	140
Lower Colorado River Authority	Publicly Owned	3,339	3,311	3,284	5,230
Magic Valley Electric Coop Inc	Cooperative	—	88	167	380
Medina Electric Coop Inc	Cooperative	95	86	82	92
San Antonio Public Service Bd	Publicly Owned	385	0	1,460	1,877
San Bernard Electric Coop Inc	Cooperative	77	59	71	73
Tri-County Electric Coop Inc	Cooperative	66	52	73	125
West Texas Utilities Co	Investor-Owned	1,562	990	1,655	2,275
San Marcos City of	Publicly Owned	64	77	82	92
Texas-New Mexico Power Co	Investor-Owned	1,013	1,040	1,570	1,750
Texas Utilities Electric Co	Investor-Owned	21,509	20,102	16,415	16,415
ERCOT Total		55,675	62,533	65,556	79,156
MAAC					
A & N Electric Coop	Cooperative	140	145	150	168
Allegheny Electric Coop Inc	Cooperative	217	—	—	—
Atlantic City Electric Co	Investor-Owned	10,934	10,397	7,546	6,703
Baltimore Gas & Electric Co	Investor-Owned	29,791	65,683	71,989	60,259

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
MAAC (Continued)					
Choptank Electric Coop Inc	Cooperative	185	229	265	371
Conowingo Power Co	Investor-Owned	179	429	1,736	1,736
Delmarva Power & Light Co	Investor-Owned	8,820	8,902	5,821	9,530
Delaware Electric Coop Inc	Cooperative	732	662	750	1,000
Easton Utilities Comm	Publicly Owned	—	49	344	534
Jersey Central Power&Light Co	Investor-Owned	8,845	13,685	17,805	13,737
Metropolitan Edison Co	Investor-Owned	4,705	4,461	4,326	4,326
Pennsylvania Electric Co	Investor-Owned	3,368	3,376	3,967	4,452
Pennsylvania Power & Light Co	Investor-Owned	12,310	13,050	13,277	13,192
Philadelphia Electric Co	Investor-Owned	9,983	10,606	10,190	19,997
Potomac Electric Power Co	Investor-Owned	40,705	73,516	96,796	94,469
Public Service Electric&Gas Co	Investor-Owned	43,570	50,200	58,658	145,000
Southern Maryland El Coop Inc	Cooperative	2,998	5,173	6,947	10,665
UGI Utilities Inc	Investor-Owned	79	97	110	110
Somerset Rural Elec Coop Inc	Cooperative	116	123	130	146
Adams Electric Coop Inc	Cooperative	196	519	568	689
Bedford Rural Elec Coop Inc	Cooperative	—	106	108	120
Valley Rural Electric Coop Inc	Cooperative	100	106	111	127
Central Electric Coop Inc	Cooperative	109	132	167	232
Claverack Rural Elec Coop Inc	Cooperative	—	101	105	118
Southwest Central R E C Corp	Cooperative	15	30	30	50
Northwestern Rural E C A Inc	Cooperative	323	334	340	367
MAAC Total		178,420	262,111	302,236	388,098
MAIN					
Boone Electric Coop	Cooperative	118	72	82	91
Central Illinois Light Co	Investor-Owned	2,437	1,885	3,140	5,252
Central Illinois Pub Serv Co	Investor-Owned	819	691	691	691
Coles-Moultrie Electric Coop	Cooperative	180	150	130	115
Columbia City of	Publicly Owned	303	589	744	1,200
Commonwealth Edison Co	Investor-Owned	3,110	3,025	8,300	95,220
Corn Belt Electric Coop Inc	Cooperative	231	283	292	330
Cuivre River Electric Coop Inc	Cooperative	71	147	168	167
Eastern Illini Electric Coop	Cooperative	80	102	105	82
Illinois Power Co	Investor-Owned	460	595	0	0
Madison Gas & Electric Co	Investor-Owned	7,080	6,670	6,782	7,415
Manitowoc Public Utilities	Publicly Owned	310	279	450	500
Marshfield City of	Publicly Owned	138	122	172	172
Menard Electric Coop	Cooperative	84	79	79	88
Plymouth City of	Publicly Owned	—	15	15	15
Shelby Electric Coop Inc	Cooperative	145	15	70	37
South Beloit Water Gas&Elec Co	Investor-Owned	75	—	—	—
Southeastern IL Elec Coop Inc	Cooperative	3	6	11	20
Southwestern Electric Coop Inc	Cooperative	747	160	180	240
Springfield City of	Publicly Owned	333	396	527	1,031
Tri-County Electric Coop Inc	Cooperative	550	115	115	115
Union Electric Co	Investor-Owned	19,200	12,023	13,930	28,946
Wayne-White Counties Elec Coop	Cooperative	22	23	25	27
Wisconsin Electric Power Co	Investor-Owned	54,005	57,750	48,219	48,219
Wisconsin Power & Light Co	Investor-Owned	9,486	15,736	14,716	14,716
Wisconsin Public Power Inc Sys	Publicly Owned	988	1,579	2,332	5,000
Wisconsin Public Service Corp	Investor-Owned	32,635	26,100	25,000	25,900
MAIN Total		133,610	128,607	126,275	235,589
MAPP(U.S.)					
Ames City of	Publicly Owned	120	184	282	135
Anoka Electric Coop	Cooperative	1,193	—	—	—
Anoka City of	Publicly Owned	—	76	3	3
Austin City of	Publicly Owned	117	182	183	216
Barron Electric Coop	Cooperative	117	51	52	59
Beatrice City of	Publicly Owned	41	127	139	195
Cedar Falls City of	Publicly Owned	253	332	335	404
Central Iowa Power Coop	Cooperative	—	2,598	2,858	3,898
Central Power Elec Coop Inc	Cooperative	82	84	86	95
Clark Electric Coop	Cooperative	55	22	25	30
Coop Power Assn	Cooperative	5,218	6,134	7,000	8,135
Cornhusker Public Power Dist	Publicly Owned	30	24	38	50
Dawson County Public Pwr Dist	Publicly Owned	38	35	38	41

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
MAPP(U.S.) (Continued)					
East River Elec Power Coop Inc	Cooperative	876	2,479	2,236	2,017
Fairmont Public Utilities Comm	Publicly Owned	114	268	99	110
Freeborn-Mower Electric Coop	Cooperative	—	59	73	85
Grant-Lafayette Electric Coop	Cooperative	186	107	119	129
IES Utilities Inc	Investor-Owned	—	5,436	9,131	11,389
Interstate Power Co	Investor-Owned	4,694	4,892	5,210	23,328
Iowa Electric Light & Power Co	Investor-Owned	3,544	—	—	—
Iowa Lakes Electric Coop	Cooperative	598	622	517	605
Iowa Southern Utilities Co	Investor-Owned	1,169	—	—	—
Iowa-Illinois Gas&Electric Co	Investor-Owned	—	1,502	1,706	1,790
L & O Power Coop	Cooperative	20	20	20	20
Lincoln Electric System	Publicly Owned	50	77	82	117
Linn County Rural E C A	Cooperative	214	—	—	—
Loup River Public Power Dist	Publicly Owned	408	—	—	—
Marshall City of	Publicly Owned	89	216	99	111
MDU Resources Group Inc	Investor-Owned	745	900	875	1,064
Nodak Electric Coop Inc	Cooperative	72	66	66	73
Midland Power Coop	Cooperative	99	107	109	114
Maquoketa Valley Rrl Elec Coop	Cooperative	110	—	—	—
Minnesota Power & Light Co	Investor-Owned	2,139	3,437	5,614	6,500
Minnesota Valley Electric Coop	Cooperative	456	—	—	—
Minnkota Power Coop Inc	Cooperative	1,350	2,123	2,238	2,306
Moorhead City of	Publicly Owned	142	132	145	145
Muscatine City of	Publicly Owned	157	247	273	315
Nebraska Public Power District	Publicly Owned	5	1,108	1,210	1,530
Norris Public Power District	Publicly Owned	82	58	150	175
North Platte City of	Publicly Owned	79	86	110	102
Northern States Power Co	Investor-Owned	6,358	6,305	7,435	8,298
Northern States Power Co	Investor-Owned	30,587	34,291	49,989	74,553
Northwest Iowa Power Coop	Cooperative	369	386	401	451
Northwestern Public Service Co	Investor-Owned	60	6	2	2
Oakdale Electric Coop	Cooperative	187	176	174	194
Oliver-Mercer Elec Coop Inc	Cooperative	37	15	15	16
Omaha Public Power District	Publicly Owned	387	459	955	2,206
Otter Tail Power Co	Investor-Owned	3,422	3,664	4,008	4,410
Owatonna City of	Publicly Owned	158	62	58	96
People's Coop Power Assn	Cooperative	27	26	29	34
Pella City of	Publicly Owned	—	215	215	215
Pierre City of	Publicly Owned	32	18	18	21
Polk-Burnett Electric Coop	Cooperative	350	336	350	400
Rochester Public Utilities	Publicly Owned	359	442	513	739
Roseau Electric Coop Inc	Cooperative	—	65	70	80
Runestone Electric Assn	Cooperative	385	111	113	126
Shakopee Public Utilities Comm	Publicly Owned	30	30	47	82
Superior Water Light&Power Co	Investor-Owned	350	261	288	326
Tri-County Electric Coop	Cooperative	191	189	191	199
United Power Assn	Cooperative	6,217	4,679	4,774	4,595
Verendrye Electric Coop Inc	Cooperative	85	85	87	98
Vernon Electric Coop	Cooperative	—	128	130	141
Mountrail-Williams El Coop Inc	Cooperative	72	73	77	91
Wild Rice Electric Coop Inc	Cooperative	106	134	142	166
Municipal Energy Agency of NE	Publicly Owned	84	31	24	45
Midwest Power Systems Inc	Investor-Owned	10,383	16,792	17,412	19,364
Cass County Electric Coop Inc	Cooperative	123	125	128	141
MAPP(U.S.) Total		85,021	102,895	128,766	182,375
NPCC(U.S.)					
Bangor Hydro-Electric Co	Investor-Owned	2,116	1,989	1,613	1,613
Blackstone Valley Electric Co	Investor-Owned	1,948	3,100	3,295	2,959
Boston Edison Co	Investor-Owned	54,871	55,823	57,453	32,513
Braintree Town of	Publicly Owned	180	129	200	168
Burlington City of	Publicly Owned	883	954	584	584
Cambridge Electric Light Co	Investor-Owned	579	2,686	1,500	1,500
Central Hudson Gas & Elec Corp	Investor-Owned	8,834	5,011	7,632	11,630
Central Maine Power Co	Investor-Owned	17,256	15,350	17,500	17,500
Central Vermont Pub Serv Corp	Investor-Owned	4,169	9,841	5,550	2,826
Chicopee City of	Publicly Owned	261	175	390	730
Citizens Utilities Co	Investor-Owned	105	0	285	2,134

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
NPCC(U.S.) (Continued)					
Commonwealth Electric Co	Investor-Owned	3,963	4,475	5,933	5,933
Concord Electric Co	Investor-Owned	150	506	482	573
Connecticut Light & Power Co	Investor-Owned	45,406	41,190	40,000	33,149
Connecticut Valley Elec Co Inc	Investor-Owned	236	505	394	394
Consolidated Edison Co-NY Inc	Investor-Owned	115,578	125,073	124,480	66,295
Eastern Edison Co	Investor-Owned	4,914	7,541	8,928	9,500
Exeter & Hampton Electric Co	Investor-Owned	143	497	619	602
Fitchburg Gas & Elec Light Co	Investor-Owned	760	660	967	1,254
Green Mountain Power Corp	Investor-Owned	4,568	8,378	8,633	7,314
Holyoke City of	Publicly Owned	34	33	33	42
Hingham City of	Publicly Owned	22	28	230	235
Jamestown City of	Publicly Owned	94	120	150	150
Littleton Town of	Publicly Owned	—	63	81	92
Long Island Lighting Co	Investor-Owned	33,767	33,441	29,070	39,473
Maine Public Service Co	Investor-Owned	453	219	206	257
Massachusetts Electric Co	Investor-Owned	47,811	49,660	69,377	66,090
Massena Town of	Publicly Owned	17	15	16	17
Montaup Electric Co	Investor-Owned	7,818	12,157	13,734	10,804
Narragansett Electric Co	Investor-Owned	12,615	12,869	13,801	13,801
New England Power Co	Investor-Owned	—	2,927	8,496	8,496
New Hampshire Elec Coop Inc	Cooperative	300	1,100	1,910	3,500
New York State Elec & Gas Corp	Investor-Owned	37,264	47,690	16,702	10,500
Newport Electric Corp	Investor-Owned	956	1,612	1,511	1,558
Niagara Mohawk Power Corp	Investor-Owned	65,919	42,105	41,429	15,142
North Attleborough Town of	Publicly Owned	39	—	—	—
Norwood City of	Publicly Owned	90	234	299	400
Orange & Rockland Utils Inc	Investor-Owned	15,344	22,077	18,020	28,395
Power Authority of State of NY	Publicly Owned	9,214	10,315	12,240	2,200
Public Service Co of NH	Investor-Owned	79	434	2,321	2,631
Reading Town of	Publicly Owned	155	155	163	198
Rochester Gas & Electric Corp	Investor-Owned	11,121	10,087	12,602	13,347
Shrewsbury Town of	Publicly Owned	220	275	500	500
Taunton City of	Publicly Owned	210	378	400	450
United Illuminating Co	Investor-Owned	13,869	13,964	14,000	10,000
Omya Inc	Investor-Owned	—	121	14	10
Wellesley Town of	Publicly Owned	16	18	0	0
Western Massachusetts Elec Co	Investor-Owned	14,954	16,920	14,819	11,677
Granite State Electric Co	Investor-Owned	2,921	2,245	3,186	2,790
NPCC(U.S.) Total		542,222	565,145	561,748	441,933
SERC					
Aiken Electric Coop Inc	Cooperative	248	725	840	950
Alabama Electric Coop Inc	Cooperative	1,074	892	929	929
Alabama Power Co	Investor-Owned	22,127	22,950	24,218	27,709
Albemarle City of	Publicly Owned	—	177	200	205
Altamaha Electric Member Corp	Cooperative	8	9	13	18
Amicalola Electric Member Corp	Cooperative	197	50	66	103
BARC Electric Coop Inc	Cooperative	70	98	98	89
Berkeley Electric Coop Inc	Cooperative	610	675	685	870
Black River Electric Coop Inc	Cooperative	174	443	345	525
Blue Ridge Elec Member Corp	Cooperative	769	757	787	907
Canoochee Electric Member Corp	Cooperative	24	24	24	25
Carolina Power & Light Co	Investor-Owned	61,779	42,400	44,500	44,500
Carroll Electric Member Corp	Cooperative	143	85	91	106
Carteret-Craven El Member Corp	Cooperative	276	303	331	365
Central Florida Elec Coop Inc	Cooperative	85	16	17	20
Central Georgia El Member Corp	Cooperative	179	119	145	198
Central Electric Member Corp	Cooperative	75	79	96	120
Clay Electric Coop Inc	Cooperative	2,570	2,730	2,867	3,486
Coast Electric Power Assn	Cooperative	55	55	57	63
Coastal Electric Member Corp	Cooperative	—	133	147	215
Cobb Electric Membership Corp	Cooperative	1,840	2,150	2,262	2,580
Community Electric Coop	Cooperative	—	137	137	150
Coweta-Fayette El Member Corp	Cooperative	697	794	810	890
Crescent Electric Member Corp	Cooperative	707	785	826	992
Crisp County Power Comm	Publicly Owned	14	—	—	—
Davidson Electric Member Corp	Cooperative	48	63	81	122
Douglas City of	Publicly Owned	5	11	13	16

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
SERC (Continued)					
Duke Power Co	Investor-Owned	75,031	86,241	80,429	111,469
East Point City of	Publicly Owned	—	0	18	22
Elizabeth City City of	Publicly Owned	307	288	288	288
Excelsior Electric Member Corp	Cooperative	18	45	20	30
Fairfield Electric Coop Inc	Cooperative	169	168	137	108
Fayetteville Public Works Comm	Publicly Owned	25	25	200	25
Fitzgerald Wtr Lgt & Bond Comm	Publicly Owned	19	7	10	10
Flint Electric Membership Corp	Cooperative	1,532	1,729	1,794	1,968
Florida Keys El Coop Assn Inc	Cooperative	166	189	183	205
Florida Power & Light Co	Investor-Owned	95,841	139,381	154,853	183,662
Florida Power Corp	Investor-Owned	76,634	102,930	105,190	105,190
Fort Pierce Utilities Auth	Publicly Owned	135	163	175	175
Four County Elec Member Corp	Cooperative	257	1,083	1,158	1,359
Gaffney City of	Publicly Owned	—	1,802	961	268
Gainesville Regional Utilities	Publicly Owned	603	510	514	602
Gastonia City of	Publicly Owned	50	—	—	—
GreyStone Power Corp	Cooperative	60	353	285	238
Georgia Power Co	Investor-Owned	6,743	52,294	58,884	62,944
Grady County Elec Member Corp	Cooperative	64	27	27	31
Greenville Utilities Comm	Publicly Owned	481	400	501	596
Griffin City of	Publicly Owned	—	25	25	25
Gulf Power Co	Investor-Owned	2,567	1,958	2,304	2,850
Harrisonburg City of	Publicly Owned	111	47	47	47
Hart Electric Member Corp	Cooperative	210	238	240	235
Haywood Electric Member Corp	Cooperative	42	43	43	58
High Point Town of	Publicly Owned	363	211	219	225
Jackson Electric Member Corp	Cooperative	423	454	477	582
Jacksonville Electric Auth	Publicly Owned	800	995	995	1,025
Jefferson Electric Member Corp	Cooperative	43	47	51	61
Jones-Onslow Elec Member Corp	Cooperative	95	210	250	500
Kinston City of	Publicly Owned	95	98	85	85
Kissimmee Utility Authority	Publicly Owned	621	1,075	1,336	2,159
Lakeland City of	Publicly Owned	1,949	1,065	1,358	1,523
Lamar Electric Membership Corp	Cooperative	3	3	3	4
Laurens Electric Coop Inc	Cooperative	27	32	35	38
Laurinburg City of	Publicly Owned	—	54	56	39
Lawrenceville City of	Publicly Owned	6	6	7	7
Lee County Electric Coop Inc	Cooperative	3,259	1,807	1,814	1,963
Leesburg City of	Publicly Owned	112	67	100	162
Lexington City of	Publicly Owned	89	—	—	—
Lumbree River Elec Member Corp	Cooperative	225	230	235	245
Lumberton City of	Publicly Owned	1	1	1	36
Lynches River Elec Coop Inc	Cooperative	60	183	209	179
Manassas City of	Publicly Owned	94	205	208	231
Marietta City of	Publicly Owned	43	39	5	5
Mecklenburg Electric Coop Inc	Cooperative	84	118	154	248
Mid-Carolina Electric Coop Inc	Cooperative	1,533	1,290	1,365	1,516
Mississippi Power Co	Investor-Owned	—	106	109	119
Mitchell Electric Member Corp	Cooperative	28	28	28	35
Monroe City of	Publicly Owned	25	540	330	80
Morganton City of	Publicly Owned	651	—	—	—
Municipal Electric Authority	Publicly Owned	0	14	12	12
New Bern City of	Publicly Owned	156	258	405	201
New River Light & Power Co	Publicly Owned	30	32	33	36
New Smyrna Beach Utils Comm	Publicly Owned	82	62	28	30
North Carolina Mun Power Agny	Publicly Owned	1,558	1,547	1,281	1,513
Northern Virginia Elec Coop	Cooperative	2,015	2,229	2,298	7,631
North Carolina El Member Corp	Cooperative	5,591	4,375	4,833	7,924
North Carolina Eastern M P A	Publicly Owned	1,041	1,741	1,804	2,097
Northern Neck Elec Coop Inc	Cooperative	22	20	20	18
Ocala City of	Publicly Owned	329	180	297	339
Orangeburg City of	Publicly Owned	88	0	0	100
Palmetto Electric Coop Inc	Cooperative	648	661	719	719
Orlando Utilities Comm	Publicly Owned	1,548	1,141	1,866	3,333
Planters Electric Member Corp	Cooperative	36	46	21	31
Pee Dee Electric Member Corp	Cooperative	194	194	202	210
Piedmont Electric Member Corp	Cooperative	98	104	104	104
Piedmont Municipal Power Agny	Publicly Owned	638	—	—	—

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
SERC (Continued)					
Prince George Electric Coop	Cooperative	32	21	27	42
Randolph Electric Member Corp	Cooperative	57	52	55	60
Rayle Electric Membership Corp	Cooperative	29	29	30	44
Reedy Creek Improvement Dist	Publicly Owned	—	92	143	152
Roanoke Electric Member Corp	Cooperative	38	35	39	46
Rock Hill City of	Publicly Owned	—	837	180	180
Rocky Mount City of	Publicly Owned	150	1,125	4,125	4,125
Rutherford Elec Member Corp	Cooperative	411	416	437	532
Satilla Rural Elec Member Corp	Cooperative	32	32	32	41
Savannah Electric & Power Co	Investor-Owned	—	3,039	3,039	3,039
Sawnee Electric Members Corp	Cooperative	410	547	465	563
Shelby City of	Publicly Owned	32	—	—	—
Shenandoah Valley Elec Coop	Cooperative	148	119	137	158
Singing River Elec Power Assn	Cooperative	58	80	90	102
South Carolina Electric&Gas Co	Investor-Owned	4,564	10,211	7,004	3,969
South Carolina Pub Serv Auth	Publicly Owned	6,505	8,962	10,487	15,831
South Mississippi El Pwr Assn	Cooperative	65	84	78	100
Snapping Shoals El Member Corp	Cooperative	596	845	854	1,020
Statesville City of	Publicly Owned	72	—	—	—
Sumter Electric Coop Inc	Cooperative	638	726	291	337
Suwannee Valley Elec Coop Inc	Cooperative	52	107	61	72
Tallahassee City of	Publicly Owned	741	951	747	747
Tampa Electric Co	Investor-Owned	14,938	15,923	17,951	18,917
Tennessee Valley Authority	Federal	66,486	72,445	79,280	108,300
Thomasville City of	Publicly Owned	134	52	72	83
Tri-County Elec Member Corp	Cooperative	128	—	—	—
Tri-County Elec Member Corp	Cooperative	50	210	231	299
Tideland Electric Member Corp	Cooperative	90	95	99	114
Troup Electric Members Corp	Cooperative	347	117	117	117
Union Electric Membership Corp	Cooperative	13	15	18	25
Virginia Electric & Power Co	Investor-Owned	27,349	32,398	39,962	62,261
Wake Electric Membership Corp	Cooperative	453	467	495	550
Walton Electric Member Corp	Cooperative	491	491	735	608
Washington City of	Publicly Owned	180	247	250	300
Washington Elec Member Corp	Cooperative	16	16	17	22
Withlacoochee River Elec Coop	Cooperative	60	59	268	5,147
York Electric Coop Inc	Cooperative	81	45	60	96
Southside Electric Coop Inc	Cooperative	82	62	54	45
Brunswick Electric Member Corp	Cooperative	725	714	753	929
Colquitt Electric Members Corp	Cooperative	556	604	688	726
Central Electric Pwr Coop Inc	Cooperative	2,624	2,184	1,937	2,286
Rappahannock Electric Coop	Cooperative	514	553	575	700
Alabama Municipal Elec Auth	Publicly Owned	1,000	—	—	—
SERC Total		510,489	643,081	684,107	826,608
SPP					
Arkansas Power & Light Co	Investor-Owned	164	123	2,477	11,949
Bailey County Elec Coop Assn	Cooperative	—	6	10	148
C & L Electric Coop Corp	Cooperative	5	5	5	7
Carroll Electric Coop Corp	Cooperative	90	93	48	31
Central Rural Electric Coop	Cooperative	109	73	82	92
Caddo Electric Coop Inc	Cooperative	372	69	60	10
Cookson Hills Elec Coop Inc	Cooperative	363	390	414	300
Craighead Electric Coop Corp	Cooperative	362	436	446	508
Dixie Electric Membership Corp	Cooperative	104	—	—	—
Duncan City of	Publicly Owned	50	50	54	54
Empire District Electric Co	Investor-Owned	361	495	540	540
First Electric Coop Corp	Cooperative	860	996	1,033	819
Golden Spread Elec Coop Inc	Cooperative	60	60	60	60
Gulf States Utilities Co	Investor-Owned	2,700	2,700	2,800	4,200
Independence City of	Publicly Owned	145	150	151	157
Indian Electric Coop Inc	Cooperative	50	48	51	28
Kansas Electric Power Coop Inc	Cooperative	79	73	32	35
Kansas City Power & Light Co	Investor-Owned	880	1,060	1,270	720
KG&E Western Resources Co	Investor-Owned	1,099	1,525	1,525	4,748
Mississippi Cnty Elec Coop Inc	Cooperative	33	36	50	40
North Arkansas Elec Coop Inc	Cooperative	263	228	200	200
Northeast Louisiana Power Coop	Cooperative	—	59	51	50

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
SPP (Continued)					
Oklahoma Gas & Electric Co	Investor-Owned	17,728	18,968	14,446	19,937
Osceola City of	Publicly Owned	500	300	300	300
Ozark Electric Coop Inc	Cooperative	3	3	3	6
People's Electric Coop	Cooperative	40	—	—	—
Petit Jean Electric Coop Corp	Cooperative	162	170	172	183
Red River Valley Rri Elec Assn	Cooperative	4	88	88	92
South Central Ark El Coop Inc	Cooperative	—	3	3	3
South Plains Electric Coop Inc	Cooperative	513	452	500	725
Southwestern Electric Power Co	Investor-Owned	834	934	1,035	4,509
Southwestern Public Service Co	Investor-Owned	1,923	974	1,052	956
Verdigris Valley Elec Coop Inc	Cooperative	113	116	121	139
White River Valley El Coop Inc	Cooperative	—	8	7	14
Woodruff Electric Coop Corp	Cooperative	166	67	161	160
Western Resources Inc	Investor-Owned	792	2,618	2,618	4,045
SPP Total		30,927	33,376	31,865	55,765
WSCC(U.S.)					
Alameda City of	Publicly Owned	224	332	386	451
Anaheim City of	Publicly Owned	255	1,495	1,640	2,875
Arizona Electric Pwr Coop Inc	Cooperative	104	700	1,000	1,000
Arizona Public Service Co	Investor-Owned	6,180	6,010	8,090	8,570
Ashland City of	Publicly Owned	180	100	100	100
PUD No 1 of Benton County	Publicly Owned	1,123	—	—	—
Bonneville Power Admin	Federal	118,177	165,269	216,077	283,013
Bountiful City City of	Publicly Owned	64	66	71	125
PUD No 1 of Chelan County	Publicly Owned	535	300	1,026	1,026
Colorado Springs City of	Publicly Owned	68	265	805	0
Colton City of	Publicly Owned	3	154	154	154
El Paso Electric Co	Investor-Owned	773	1,132	1,234	1,234
Eugene City of	Publicly Owned	5,283	—	—	—
Forest Grove City of	Publicly Owned	35	245	295	859
Fort Collins City of	Publicly Owned	297	296	749	898
Idaho Power Co	Investor-Owned	3,892	8,575	15,000	8,000
Imperial Irrigation District	Publicly Owned	366	493	512	582
La Plata Electric Assn Inc	Cooperative	340	17	22	250
PUD No 1 of Lewis County	Publicly Owned	600	—	—	—
Lodi City of	Publicly Owned	6	—	—	—
Logan City of	Publicly Owned	2	—	—	—
Longmont City of	Publicly Owned	90	128	133	164
Los Angeles City of	Publicly Owned	22,177	17,903	19,439	31,027
Loveland City of	Publicly Owned	137	136	194	243
Modesto Irrigation District	Publicly Owned	1,034	1,154	1,212	1,498
Montana Power Co	Investor-Owned	5,795	10,437	14,797	23,762
Navopache Electric Coop Inc	Cooperative	106	145	147	171
Nevada Power Co	Investor-Owned	7,244	6,824	7,098	10,595
Overton Power District No 5	Publicly Owned	—	5	6	8
Pacific Gas & Electric Co	Investor-Owned	175,378	130,785	166,251	166,251
PacifiCorp	Investor-Owned	22,391	41,000	41,431	70,269
Palo Alto City of	Publicly Owned	900	900	600	1,520
Pasadena City of	Publicly Owned	249	507	1,466	6,614
PUD No 2 of Grant County	Publicly Owned	1,395	—	—	—
Port Angeles City of	Publicly Owned	1,048	—	—	—
Portland General Electric Co	Investor-Owned	16,743	17,202	22,817	41,000
Public Service Co of Colorado	Investor-Owned	2,363	7,938	18,670	32,264
Public Service Co of NM	Investor-Owned	60	156	152	105
Puget Sound Power & Light Co	Investor-Owned	54,086	59,763	44,011	24,500
Redding City of	Publicly Owned	195	124	142	230
Riverside City of	Publicly Owned	317	840	1,110	1,165
Roseville City of	Publicly Owned	288	331	431	468
Sacramento Municipal Util Dist	Publicly Owned	40,210	36,307	55,882	57,500
Salem Electric Coop	Cooperative	260	—	—	—
Salt River Proj Ag I & P Dist	Publicly Owned	4,489	8,830	7,210	6,907
San Diego Gas & Electric Co	Investor-Owned	44,556	33,017	45,684	45,684
Santa Clara City of	Publicly Owned	425	400	400	400
Seattle City of	Publicly Owned	18,100	23,590	22,765	37,510
Sierra Pacific Power Co	Investor-Owned	5,781	4,145	5,382	7,693
PUD No 1 of Snohomish County	Publicly Owned	8,249	—	—	—
Southern California Edison Co	Investor-Owned	87,761	128,853	138,349	147,195

See footnotes at end of table.

Table 22. U.S. Electric Utility DSM Program Costs by North American Electric Reliability Council Region and Hawaii by Class of Ownership, 1992, 1993, 1994, and 1998
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Class of Ownership	Historical Costs		Projected Costs	
		1992	1993	1994	1998
WSCC(U.S.) (Continued)					
Springfield City of	Publicly Owned	811	1,670	1,688	2,878
Sulphur Springs Valley E C Inc	Cooperative	110	140	95	400
Tacoma City of	Publicly Owned	3,996	8,430	15,300	17,766
Trico Electric Coop Inc	Cooperative	—	10	0	0
Turlock Irrigation District	Publicly Owned	451	894	702	830
Black Hills Corp	Investor-Owned	440	441	447	473
Vera Irrigation District #15	Publicly Owned	10	40	40	52
Vernon City of	Publicly Owned	230	155	131	390
Washington Water Power Co	Investor-Owned	10,740	25,274	19,456	6,966
Yellowstone Vily Elec Coop Inc	Cooperative	120	164	179	314
Mohave Electric Coop Inc	Cooperative	10	20	22	42
Tucson Electric Power Co	Investor-Owned	1,465	2,840	3,999	4,329
Columbia River Peoples Ut Dist	Publicly Owned	370	—	—	—
Northern California Power Agny	Publicly Owned	665	—	—	—
WSCC(U.S.) Total		679,752	756,947	904,999	1,058,320
Contiguous U.S.		2,347,019	2,741,832	3,001,217	3,524,273
ASCC					
Alaska Electric Light&Power Co	Investor-Owned	74	56	228	228
Golden Valley Elec Assn Inc	Cooperative	241	363	656	1,028
ASCC Total		315	419	884	1,256
Hawaii					
Hawaii Electric Light Co Inc	Investor-Owned	—	183	229	8,795
Maui Electric Co Ltd	Investor-Owned	47	131	250	4,100
Hawaiian Electric Co Inc	Investor-Owned	713	968	392	23,870
Hawaii Total		760	1,282	871	36,765
U.S. Total		2,348,094	2,743,533	3,002,972	3,562,294

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
ECAR						
Appalachian Power Co	1,383	0	0	90	0	1,473
Cincinnati Gas & Electric Co	2,987	693	90	0	0	3,770
Cleveland Electric Illum Co	2,603	0	0	84	0	2,687
Columbus Southern Power Co	1,184	0	0	0	24	1,208
Consumers Power Co	46,951	2,617	201	459	841	51,069
Crawfordsville Elec Lgt&Pwr Co	9	0	0	0	0	9
Dayton Power & Light Co	23,941	0	0	0	0	23,941
Detroit Edison Co	3,371	48	0	0	0	3,419
East Kentucky Power Coop Inc	1,000	0	0	300	0	1,300
Buckeye Power Inc	0	0	2,015	0	0	2,015
Hamilton City of	0	0	0	5	110	115
Hendricks County Rural E M C	0	60	0	0	0	60
Indianapolis Power & Light Co	743	0	652	0	319	1,714
Indiana Michigan Power Co	744	0	0	155	0	899
Kentucky Utilities Co	612	0	0	49	0	661
Kingsport Power Co	210	0	0	0	0	210
Lansing City of	18	0	0	0	0	18
Louisville Gas & Electric Co	0	0	4,343	0	0	4,343
Midwest Electric Inc	0	7	0	0	0	7
Monongahela Power Co	301	0	50	0	9	360
Ohio Edison Co	2,669	0	12,119	63	0	14,851
Ohio Power Co	638	0	0	0	625	1,263
Owen Electric Coop Inc	29	0	0	0	0	29
Pennsylvania Power Co	311	0	2,598	0	0	2,909
Potomac Edison Co	1,133	0	0	0	16	1,149
PSI Energy Inc	25,696	0	1,369	0	0	27,065
Southern Indiana Gas & Elec Co	1,695	1,499	1,304	0	0	4,498
South Central Power Co	90	475	0	0	110	675
Toledo Edison Co	1,077	0	0	0	62	1,139
Utilities Dist-Western IN REMC	119	0	0	0	2	121
Virginia Tech Electric Service	0	0	0	6	0	6
West Penn Power Co	1,689	0	0	0	498	2,187
Wheeling Power Co	32	0	0	71	0	103
Wolverine Pwr Supply Coop Inc	0	885	0	0	0	885
Kentucky Power Co	16	0	0	0	0	16
Wabash Valley Power Assn Inc	0	450	0	0	0	450
American Mun Power-Ohio Inc	25	0	0	0	35	60
ECAR Total	121,276	6,734	24,741	1,282	2,651	156,684
ERCOT						
Austin City of	6,858	25	36	0	0	6,919
Brazos Electric Power Coop Inc	333	446	0	0	0	779
Bryan City of	250	0	36	0	0	286
Central Power & Light Co	2,021	0	0	3,352	0	5,373
Denton City of	36	160	0	72	0	268
Garland City of	0	329	297	0	0	626
Greenville Electric Util Sys	0	12	0	0	0	12
Guadalupe Valley Elec Coop Inc	0	78	0	0	0	78
Houston Lighting & Power Co	9,021	5,082	0	3,483	0	17,586
Johnson County Elec Coop Assn	111	0	0	0	0	111
Lower Colorado River Authority	2,506	293	0	0	0	2,799
Magic Valley Electric Coop Inc	88	0	0	0	0	88
Medina Electric Coop Inc	0	0	0	32	0	32
San Bernard Electric Coop Inc	13	0	0	43	0	56
Tri-County Electric Coop Inc	45	0	0	0	0	45
West Texas Utilities Co	976	0	0	0	14	990
San Marcos City of	58	19	0	0	0	77
Texas-New Mexico Power Co	480	0	0	0	180	660
Texas Utilities Electric Co	15,215	0	86	1,749	1,600	18,650
ERCOT Total	38,011	6,444	455	8,731	1,794	55,435
MAAC						
A & N Electric Coop	0	145	0	0	0	145
Atlantic City Electric Co	5,546	1,329	537	85	0	7,497
Baltimore Gas & Electric Co	28,269	24,009	2,510	1,300	0	56,088
Choptank Electric Coop Inc	0	229	0	0	0	229
Conowingo Power Co	313	15	0	0	101	429
Delmarva Power & Light Co	1,728	5,944	0	23	0	7,695
Delaware Electric Coop Inc	0	662	0	0	0	662

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand- Side Management	Total Direct Utility Cost ¹
MAAC						
Easton Utilities Comm	16	0	0	0	0	16
Jersey Central Power&Light Co	5,991	3,972	0	338	1,956	12,257
Metropolitan Edison Co	2,803	0	5	1,049	0	3,857
Pennsylvania Electric Co	3,376	0	0	0	0	3,376
Philadelphia Electric Co	7,255	1	950	1,200	1,200	10,606
Potomac Electric Power Co	52,677	12,425	2,816	638	0	68,556
Public Service Electric&Gas Co	7,200	10,000	9,500	0	20,000	46,700
Southern Maryland El Coop Inc	1,625	3,244	0	0	0	4,869
UGI Utilities Inc	56	0	0	0	0	56
Somerset Rural Elec Coop Inc	0	53	0	0	0	53
Adams Electric Coop Inc	30	389	0	0	100	519
Bedford Rural Elec Coop Inc	0	75	0	3	0	78
Valley Rural Electric Coop Inc	3	50	0	3	0	56
Central Electric Coop Inc	0	113	0	0	0	113
Claverack Rural Elec Coop Inc	0	87	0	0	0	87
Southwest Central R E C Corp	0	0	30	0	0	30
Northwestern Rural E C A Inc	0	334	0	0	0	334
MAAC Total	116,888	63,076	16,348	4,639	23,357	224,308
MAIN						
Boone Electric Coop	0	68	0	0	0	68
Central Illinois Light Co	92	61	1,732	0	0	1,885
Coles-Moultrie Electric Coop	0	100	0	0	0	100
Columbia City of	120	226	0	0	0	346
Commonwealth Edison Co	600	25	0	2,400	0	3,025
Corn Belt Electric Coop Inc	0	0	0	0	266	266
Cuivre River Electric Coop Inc	2	90	0	0	51	143
Eastern Illini Electric Coop	0	50	12	0	0	62
Illinois Power Co	497	0	0	0	0	497
Madison Gas & Electric Co	4,283	230	0	0	0	4,513
Manitowoc Public Utilities	279	0	0	0	0	279
Marshfield City of	97	0	0	0	0	97
Menard Electric Coop	0	62	7	0	0	69
Shelby Electric Coop Inc	0	8	2	0	0	10
Southeastern IL Elec Coop Inc	0	0	0	0	4	4
Southwestern Electric Coop Inc	0	0	0	0	60	60
Springfield City of	197	0	0	0	0	197
Tri-County Electric Coop Inc	0	50	50	0	0	100
Union Electric Co	0	0	12,023	0	0	12,023
Wayne-White Counties Elec Coop ..	0	10	10	0	0	20
Wisconsin Electric Power Co	33,962	4,736	3	800	0	39,501
Wisconsin Power & Light Co	11,994	582	0	0	926	13,502
Wisconsin Public Power Inc Sys	923	85	0	0	0	1,008
Wisconsin Public Service Corp	16,200	200	3,500	100	0	20,000
MAIN Total	69,246	6,583	17,339	3,300	1,307	97,775
MAPP(U.S.)						
Ames City of	2	98	0	0	0	100
Anoka City of	0	76	0	0	0	76
Austin City of	45	37	0	0	26	108
Barron Electric Coop	31	6	0	0	0	37
Beatrice City of	0	127	0	0	0	127
Cedar Falls City of	209	0	0	0	0	209
Central Iowa Power Coop	612	0	0	562	0	1,174
Central Power Elec Coop Inc	0	84	0	0	0	84
Clark Electric Coop	0	12	0	0	0	12
Coop Power Assn	1,289	4,597	0	89	159	6,134
Cornhusker Public Power Dist	0	24	0	0	0	24
Dawson County Public Pwr Dist	0	0	30	0	0	30
East River Elec Power Coop Inc	0	2,479	0	0	0	2,479
Fairmont Public Utilities Comm	0	200	0	0	65	265
Freeborn-Mower Electric Coop	0	43	0	0	0	43
Grant-Lafayette Electric Coop	5	30	2	10	5	52
IES Utilities Inc	2,657	245	33	145	0	3,080
Interstate Power Co	1,939	2,379	24	0	60	4,402
Iowa Lakes Electric Coop	142	1	0	0	4	147
Iowa-Illinois Gas&Electric Co	1,502	0	0	0	0	1,502
L & O Power Coop	0	20	0	0	0	20

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
MAPP(U.S.)						
Lincoln Electric System	68	0	0	9	0	77
Marshall City of	126	0	1	0	76	203
MDU Resources Group Inc	0	257	0	0	0	257
Nodak Electric Coop Inc	0	18	0	0	0	18
Midland Power Coop	79	1	0	0	0	80
Minnesota Power & Light Co	3,437	0	0	0	0	3,437
Minnkota Power Coop Inc	0	1,973	0	0	0	1,973
Moorhead City of	0	0	35	0	0	35
Muscatine City of	247	0	0	0	0	247
Nebraska Public Power District	0	27	0	0	0	27
Norris Public Power District	0	58	0	0	0	58
North Platte City of	0	82	0	1	0	83
Northern States Power Co	3,607	253	55	748	0	4,663
Northern States Power Co	24,973	6,230	2,139	949	0	34,291
Northwest Iowa Power Coop	48	313	0	0	0	361
Northwestern Public Service Co	0	0	6	0	0	6
Oakdale Electric Coop	0	67	0	0	0	67
Oliver-Mercer Elec Coop Inc	0	15	0	0	0	15
Omaha Public Power District	459	0	0	0	0	459
Otter Tail Power Co	1,420	0	1,112	1,112	20	3,664
Owatonna City of	0	57	0	5	0	62
People's Coop Power Assn	0	8	0	0	0	8
Pella City of	126	25	0	0	0	151
Pierre City of	15	1	0	0	0	16
Polk-Burnett Electric Coop	336	0	0	0	0	336
Rochester Public Utilities	114	292	0	0	0	406
Roseau Electric Coop Inc	0	65	0	0	0	65
Runestone Electric Assn	16	80	6	0	0	102
Shakopee Public Utilities Comm	0	0	30	0	0	30
Superior Water Light&Power Co	188	11	3	0	0	202
Tri-County Electric Coop	1	132	0	0	0	133
United Power Assn	679	1,500	0	0	2,500	4,679
Verendrye Electric Coop Inc	0	25	25	0	0	50
Vernon Electric Coop	14	53	3	0	0	70
Mountrail-Williams El Coop Inc	16	57	0	0	0	73
Wild Rice Electric Coop Inc	0	45	0	0	0	45
Municipal Energy Agency of NE	3	20	0	0	0	23
Midwest Power Systems Inc	6,274	2,999	5,248	0	254	14,775
Cass County Electric Coop Inc	12	65	0	0	0	77
MAPP(U.S.) Total	50,691	25,187	8,752	3,630	3,169	91,429
NPCC(U.S.)						
Bangor Hydro-Electric Co	1,002	113	0	0	0	1,115
Blackstone Valley Electric Co	2,333	0	0	0	0	2,333
Boston Edison Co	44,070	0	355	0	0	44,425
Braintree Town of	65	35	0	1	0	101
Burlington City of	954	0	0	0	0	954
Cambridge Electric Light Co	2,391	0	4	0	0	2,395
Central Hudson Gas & Elec Corp ..	3,688	0	486	62	0	4,236
Central Maine Power Co	12,700	1,150	0	0	0	13,850
Central Vermont Pub Serv Corp	5,908	850	0	0	0	6,758
Chicopee City of	110	0	0	0	20	130
Commonwealth Electric Co	3,498	0	36	0	0	3,534
Concord Electric Co	366	0	0	0	0	366
Connecticut Light & Power Co	37,543	30	0	0	0	37,573
Connecticut Valley Elec Co Inc	273	0	0	70	0	343
Consolidated Edison Co-NY Inc	100,162	0	3,816	0	6,507	110,485
Eastern Edison Co	5,868	0	0	0	0	5,868
Exeter & Hampton Electric Co	372	0	0	0	0	372
Fitchburg Gas & Elec Light Co	660	0	0	0	0	660
Green Mountain Power Corp	4,289	322	0	0	0	4,611
Holyoke City of	25	0	0	0	0	25
Hingham City of	25	0	0	0	0	25
Jamestown City of	120	0	0	0	0	120
Littleton Town of	4	2	0	0	0	6
Long Island Lighting Co	24,932	0	2,710	0	0	27,642
Maine Public Service Co	77	2	0	0	25	104
Massachusetts Electric Co	38,535	2,064	0	0	0	40,599

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
NPCC(U.S.)						
Massena Town of	10	3	0	0	0	13
Montaup Electric Co	9,276	0	0	0	0	9,276
Narragansett Electric Co	9,991	644	0	0	0	10,635
New England Power Co	0	0	2,797	10	0	2,807
New Hampshire Elec Coop Inc	366	367	0	367	0	1,100
New York State Elec & Gas Corp ..	43,653	0	0	0	0	43,653
Newport Electric Corp	1,175	0	0	0	0	1,175
Niagara Mohawk Power Corp	24,944	0	0	0	0	24,944
Norwood City of	190	2	29	11	0	232
Orange & Rockland Utils Inc	16,078	57	1,856	0	1,467	19,458
Power Authority of State of NY	9,485	0	0	0	0	9,485
Public Service Co of NH	371	0	0	0	0	371
Reading Town of	10	15	50	0	80	155
Rochester Gas & Electric Corp	9,109	0	0	0	120	9,229
Shrewsbury Town of	35	228	0	0	0	263
Taunton City of	378	0	0	0	0	378
United Illuminating Co	12,414	0	200	350	0	12,964
Omnia Inc	108	0	0	0	0	108
Western Massachusetts Elec Co	14,923	20	0	0	0	14,943
Granite State Electric Co	1,746	90	0	0	0	1,836
NPCC(U.S.) Total	444,232	5,994	12,339	871	8,219	471,655
SERC						
Aiken Electric Coop Inc	0	78	0	0	494	572
Alabama Electric Coop Inc	390	0	0	0	94	484
Alabama Power Co	4,473	0	14,810	0	388	19,671
Albemarle City of	0	150	10	0	0	160
Altamaha Electric Member Corp	1	3	0	0	2	6
Amicalola Electric Member Corp	12	38	0	0	0	50
BARC Electric Coop Inc	0	98	0	0	0	98
Berkeley Electric Coop Inc	0	450	0	0	0	450
Black River Electric Coop Inc	38	370	0	0	0	408
Blue Ridge Elec Member Corp	0	453	0	61	0	514
Canoochee Electric Member Corp ..	0	5	0	0	0	5
Carolina Power & Light Co	15,400	9,300	12,900	1,100	0	38,700
Carroll Electric Member Corp	0	68	0	0	0	68
Carteret-Craven El Member Corp	0	268	0	0	0	268
Central Florida Elec Coop Inc	0	16	0	0	0	16
Central Georgia El Member Corp	5	68	0	0	0	73
Central Electric Member Corp	8	69	2	0	0	79
Clay Electric Coop Inc	0	2,714	0	16	0	2,730
Coast Electric Power Assn	0	0	0	50	0	50
Coastal Electric Member Corp	80	53	0	0	0	133
Cobb Electric Membership Corp	180	1,380	0	0	0	1,560
Community Electric Coop	0	137	0	0	0	137
Coweta-Fayette El Member Corp	214	111	0	0	0	325
Crescent Electric Member Corp	0	770	2	10	0	782
Davidson Electric Member Corp	0	20	0	0	10	30
Douglas City of	2	3	1	0	0	6
Duke Power Co	9,423	16,102	28,323	0	249	54,097
Elizabeth City City of	0	288	0	0	0	288
Excelsior Electric Member Corp	0	0	9	31	5	45
Fairfield Electric Coop Inc	55	90	1	0	0	146
Fayetteville Public Works Comm	25	0	0	0	0	25
Fitzgerald Wtr Lgt & Bond Comm ..	0	7	0	0	0	7
Flint Electric Membership Corp	258	1,000	0	0	0	1,258
Florida Keys El Coop Assn Inc	0	178	0	0	0	178
Florida Power & Light Co	49,544	78,702	0	0	0	128,246
Florida Power Corp	11,874	70,807	15,465	0	0	98,146
Fort Pierce Utilities Auth	163	0	0	0	0	163
Four County Elec Member Corp	75	550	450	0	8	1,083
Gaffney City of	0	1,802	0	0	0	1,802
Gainesville Regional Utilities	62	0	0	0	92	154
GreyStone Power Corp	0	353	0	0	0	353
Georgia Power Co	37,958	214	14,122	0	0	52,294
Grady County Elec Member Corp	10	6	0	0	1	17
Greenville Utilities Comm	60	206	0	0	0	266
Griffin City of	0	25	0	0	0	25

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
SERC						
Gulf Power Co	1,958	0	0	0	0	1,958
Harrisonburg City of	32	0	0	7	8	47
Hart Electric Member Corp	150	88	0	0	0	238
Haywood Electric Member Corp	2	13	10	4	2	31
High Point Town of	0	211	0	0	0	211
Jackson Electric Member Corp	129	202	4	0	0	335
Jacksonville Electric Auth	845	0	0	0	0	845
Jefferson Electric Member Corp	11	22	5	0	0	38
Jones-Onslow Elec Member Corp ..	0	100	40	0	0	140
Kinston City of	0	50	0	0	10	60
Kissimmee Utility Authority	114	961	0	0	0	1,075
Lakeland City of	0	934	0	0	0	934
Lamar Electric Membership Corp	0	0	0	3	0	3
Laurens Electric Coop Inc	27	0	0	0	3	30
Laurinburg City of	0	24	30	0	0	54
Lawrenceville City of	0	5	1	0	0	6
Lee County Electric Coop Inc	323	1,320	50	0	0	1,693
Leesburg City of	0	40	0	10	0	50
Lumbee River Elec Member Corp ..	0	230	0	0	0	230
Lumberton City of	0	1	0	0	0	1
Lynches River Elec Coop Inc	1	0	0	0	170	171
Manassas City of	7	90	0	0	0	97
Marietta City of	0	0	39	0	0	39
Mecklenburg Electric Coop Inc	0	93	1	0	0	94
Mid-Carolina Electric Coop Inc	1	1,113	0	0	36	1,150
Mississippi Power Co	106	0	0	0	0	106
Mitchell Electric Member Corp	0	25	3	0	0	28
Monroe City of	0	540	0	0	0	540
Municipal Electric Authority	0	0	0	1	0	1
New Bern City of	0	210	20	0	0	230
New River Light & Power Co	0	24	0	0	0	24
New Smyrna Beach Utils Comm	0	62	0	0	0	62
North Carolina Mun Power Agny	0	1,131	0	49	0	1,180
Northern Virginia Elec Coop	170	851	1,115	0	0	2,136
North Carolina El Member Corp	0	4,375	0	0	0	4,375
North Carolina Eastern M P A	0	1,325	0	90	0	1,415
Northern Neck Elec Coop Inc	0	10	0	0	0	10
Ocala City of	115	65	0	0	0	180
Palmetto Electric Coop Inc	33	65	0	365	0	463
Orlando Utilities Comm	578	0	0	0	0	578
Planters Electric Member Corp	0	0	9	32	5	46
Pee Dee Electric Member Corp	0	194	0	0	0	194
Piedmont Electric Member Corp	16	44	12	0	0	72
Prince George Electric Coop	0	20	0	0	0	20
Randolph Electric Member Corp	0	0	0	47	1	48
Rayle Electric Membership Corp	18	7	0	0	0	25
Reedy Creek Improvement Dist	40	0	0	0	0	40
Roanoke Electric Member Corp	2	23	0	0	0	25
Rock Hill City of	0	737	0	100	0	837
Rocky Mount City of	0	125	1,000	0	0	1,125
Satilla Rural Elec Member Corp	3	25	0	0	0	28
Savannah Electric & Power Co	2,503	0	0	0	0	2,503
Sawnee Electric Members Corp	51	426	0	0	0	477
Shenandoah Valley Elec Coop	0	69	0	0	0	69
Singing River Elec Power Assn	73	0	0	1	0	74
South Carolina Electric&Gas Co	7,477	27	544	0	938	8,986
South Carolina Pub Serv Auth	2,787	5,263	0	0	0	8,050
South Mississippi El Pwr Assn	84	0	0	0	0	84
Snapping Shoals El Member Corp ..	329	213	0	0	0	542
Sumter Electric Coop Inc	0	567	6	0	0	573
Suwannee Valley Elec Coop Inc	0	107	0	0	0	107
Tallahassee City of	330	0	0	0	426	756
Tampa Electric Co	4,015	11,551	0	163	0	15,729
Tennessee Valley Authority	5,475	300	0	0	0	5,775
Thomasville City of	0	6	0	0	0	6
Tri-County Elec Member Corp	0	195	1	0	0	196
Tideland Electric Member Corp	0	63	32	0	0	95
Troup Electric Members Corp	0	117	0	0	0	117

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
SERC						
Union Electric Membership Corp	0	12	3	0	0	15
Virginia Electric & Power Co	8,654	11,955	6,813	390	0	27,812
Wake Electric Membership Corp	235	182	0	0	0	417
Walton Electric Member Corp	101	288	0	0	52	441
Washington City of	0	147	100	0	0	247
Washington Elec Member Corp	0	5	0	0	0	5
Withlacoochee River Elec Coop	53	0	0	0	6	59
York Electric Coop Inc	0	0	0	3	0	3
Southside Electric Coop Inc	0	46	2	2	0	50
Brunswick Electric Member Corp	150	417	13	0	0	580
Colquitt Electric Members Corp	0	0	0	255	0	255
Central Electric Pwr Coop Inc	0	1,519	0	0	0	1,519
Rappahannock Electric Coop	0	553	0	0	0	553
SERC Total	167,308	236,335	95,948	2,790	3,000	505,381
SPP						
Arkansas Power & Light Co	0	123	0	0	0	123
Bailey County Elec Coop Assn	0	0	6	0	0	6
C & L Electric Coop Corp	0	0	5	0	0	5
Carroll Electric Coop Corp	0	85	0	0	0	85
Central Rural Electric Coop	0	73	0	0	0	73
Caddo Electric Coop Inc	0	69	0	0	0	69
Cookson Hills Elec Coop Inc	0	390	0	0	0	390
Craighead Electric Coop Corp	0	0	326	0	0	326
Duncan City of	15	0	0	0	0	15
Empire District Electric Co	0	0	495	0	0	495
First Electric Coop Corp	0	967	0	0	0	967
Gulf States Utilities Co	2,500	0	0	0	0	2,500
Independence City of	105	0	0	0	0	105
Indian Electric Coop Inc	0	48	0	0	0	48
Kansas Electric Power Coop Inc	0	73	0	0	0	73
Kansas City Power & Light Co	0	390	670	0	0	1,060
Kansas Gas & Electric Co	0	971	0	554	0	1,525
Mississippi Cnty Elec Coop Inc	0	36	0	0	0	36
North Arkansas Elec Coop Inc	0	228	0	0	0	228
Northeast Louisiana Power Coop	0	0	0	59	0	59
Oklahoma Gas & Electric Co	1,064	5,718	11,083	882	0	18,747
Osceola City of	0	300	0	0	0	300
Ozark Electric Coop Inc	1	0	1	0	0	2
Petit Jean Electric Coop Corp	0	109	43	0	0	152
Red River Valley Rrl Elec Assn	82	0	0	0	2	84
South Central Ark El Coop Inc	0	2	0	0	0	2
South Plains Electric Coop Inc	182	270	0	0	0	452
Southwestern Electric Power Co	527	0	0	0	0	527
Southwestern Public Service Co	935	0	39	0	0	974
Verdigris Valley Elec Coop Inc	0	95	4	0	0	99
White River Valley El Coop Inc	0	0	2	0	0	2
Woodruff Electric Coop Corp	0	52	0	5	0	57
Western Resources Inc	0	691	1,632	0	295	2,618
SPP Total	5,411	10,690	14,306	1,500	297	32,204
WSCC(U.S.)						
Alameda City of	223	0	24	0	0	247
Anaheim City of	506	349	65	0	0	920
Arizona Electric Pwr Coop Inc	400	0	0	0	0	400
Arizona Public Service Co	3,720	0	0	0	0	3,720
Ashland City of	100	0	0	0	0	100
Bonneville Power Admin	102,400	0	13,369	0	9,600	125,369
Bountiful City City of	20	0	40	0	0	60
Colton City of	0	154	0	0	0	154
El Paso Electric Co	747	0	0	0	24	771
Forest Grove City of	213	0	0	0	0	213
Fort Collins City of	0	110	0	22	0	132
Idaho Power Co	8,575	0	0	0	0	8,575
Imperial Irrigation District	359	0	0	0	134	493
La Plata Electric Assn Inc	0	0	0	0	10	10
Longmont City of	63	0	0	0	0	63
Los Angeles City of	15,348	0	278	442	0	16,068

See footnotes at end of table.

Table 23. U.S. Electric Utility DSM Program Direct Utility Costs by North American Electric Reliability Council Region and Hawaii by DSM Program Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Energy Efficiency	Direct Load Control	Interruptible Load	Other Load Management	Other Demand-Side Management	Total Direct Utility Cost ¹
WSCC(U.S.)						
Loveland City of	70	0	0	0	16	86
Modesto Irrigation District	776	378	0	0	0	1,154
Montana Power Co	7,049	0	0	0	0	7,049
Navopache Electric Coop Inc	3	26	0	50	22	101
Nevada Power Co	2,421	3,951	108	62	0	6,542
Overton Power District No 5	5	0	0	0	0	5
Pacific Gas & Electric Co	105,863	0	1,417	17,283	0	124,563
PacificCorp	41,000	0	0	0	0	41,000
Palo Alto City of	670	0	230	0	0	900
Pasadena City of	259	192	0	56	0	507
Portland General Electric Co	16,857	0	0	0	0	16,857
Public Service Co of Colorado	7,088	0	0	600	0	7,688
Public Service Co of NM	0	0	0	0	156	156
Puget Sound Power & Light Co	57,173	0	0	0	0	57,173
Redding City of	22	9	35	58	0	124
Riverside City of	203	0	0	537	0	740
Roseville City of	175	83	0	0	35	293
Sacramento Municipal Util Dist	33,920	0	0	0	0	33,920
Salt River Proj Ag I & P Dist	1,730	92	0	786	499	3,107
San Diego Gas & Electric Co	26,249	162	248	328	173	27,160
Santa Clara City of	0	0	400	0	0	400
Seattle City of	19,570	0	0	0	0	19,570
Sierra Pacific Power Co	3,278	0	0	0	0	3,278
Southern California Edison Co	100,117	1,181	2,014	3,412	0	106,724
Springfield City of	1,336	0	0	0	0	1,336
Sulphur Springs Valley E C Inc	80	0	0	0	0	80
Tacoma City of	8,430	0	0	0	0	8,430
Trico Electric Coop Inc	0	0	10	0	0	10
Turlock Irrigation District	805	0	0	0	0	805
Black Hills Corp	42	0	0	32	0	74
Vera Irrigation District #15	0	0	0	0	2	2
Vernon City of	0	0	0	20	13	33
Washington Water Power Co	22,805	0	0	0	0	22,805
Yellowstone Vly Elec Coop Inc	0	0	0	164	0	164
Mohave Electric Coop Inc	2	0	0	0	1	3
Tucson Electric Power Co	2,840	0	0	0	0	2,840
WSCC(U.S.) Total	593,512	6,687	18,238	23,852	10,685	652,974
Contiguous U.S.	1,606,575	367,730	208,466	50,595	54,479	2,287,845
ASCC						
Alaska Electric Light&Power Co	0	45	0	0	0	45
Golden Valley Elec Assn Inc	125	0	0	0	0	125
ASCC Total	125	45	0	0	0	170
Hawaii						
Hawaii Electric Light Co Inc	183	0	0	0	0	183
Maui Electric Co Ltd	101	0	0	0	0	101
Hawaiian Electric Co Inc	968	0	0	0	0	968
Hawaii Total	1,252	0	0	0	0	1,252
U.S. Total	1,607,952	367,775	208,466	50,595	54,479	2,289,267

¹ Reflects electric utility cost incurred during the year that are identified with one of the demand-side management program categories.

Notes: •Data are final. •Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Table 24. U.S. Electric Utility DSM Program Indirect Utility Costs by North American Electric Reliability Council Region and Hawaii by Cost Category, 1993
(Thousand Dollars)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Administrative	Marketing	Monitoring and Evaluation	Other ¹	Total Indirect Utility Cost ²
ECAR					
Cincinnati Gas & Electric Co	0	0	0	418	418
Cleveland Electric Illum Co	475	254	0	0	729
Columbus Southern Power Co	41	0	8	1,812	1,861
Consumers Power Co	0	0	1,497	0	1,497
Dayton Power & Light Co	0	0	1,412	0	1,412
Detroit Edison Co	188	0	214	275	677
East Kentucky Power Coop Inc	400	100	100	0	600
Indianapolis Power & Light Co	0	0	0	843	843
Kentucky Utilities Co	621	1,060	28	0	1,709
Lansing City of	0	8	0	0	8
Midwest Electric Inc	0	154	0	0	154
Monongahela Power Co	0	97	0	0	97
Ohio Power Co	0	0	10	1,423	1,433
Owen Electric Coop Inc	0	67	0	0	67
Potomac Edison Co	339	30	2	0	371
PSI Energy Inc	171	6,976	1,187	0	8,334
Southern Indiana Gas & Elec Co	473	582	270	46	1,371
South Central Power Co	15	10	0	0	25
Toledo Edison Co	255	162	0	0	417
Utilities Dist-Western IN REMC	80	55	6	0	141
Virginia Tech Electric Service	2	0	2	0	4
Wabash Valley Power Assn Inc	100	100	100	7,945	8,245
American Mun Power-Ohio Inc	21	0	5	14	40
ECAR Total	3,181	9,655	4,841	12,776	30,453
ERCOT					
Austin City of	2,413	347	160	0	2,920
Bryan City of	60	20	0	0	80
Central Power & Light Co	503	452	268	0	1,223
Georgetown City of	36	0	0	0	36
Greenville Electric Util Sys	5	1	1	0	7
Guadalupe Valley Elec Coop Inc	26	26	28	0	80
Houston Lighting & Power Co	0	0	336	0	336
Johnson County Elec Coop Assn	5	3	0	0	8
Lower Colorado River Authority	155	94	51	212	512
Medina Electric Coop Inc	18	0	24	12	54
San Bernard Electric Coop Inc	0	0	0	3	3
Tri-County Electric Coop Inc	0	7	0	0	7
Texas-New Mexico Power Co	0	0	0	380	380
Texas Utilities Electric Co	1,212	0	240	0	1,452
ERCOT Total	4,433	950	1,108	607	7,098
MAAC					
Atlantic City Electric Co	2,219	285	329	67	2,900
Baltimore Gas & Electric Co	4,700	3,138	1,757	0	9,595
Delmarva Power & Light Co	717	0	451	39	1,207
Easton Utilities Comm	25	5	3	0	33
Jersey Central Power&Light Co	0	0	0	1,428	1,428
Metropolitan Edison Co	238	0	0	366	604
Pennsylvania Power & Light Co	4,525	3,520	0	5,005	13,050
Potomac Electric Power Co	3,272	1,065	623	0	4,960
Public Service Electric&Gas Co	1,050	1,200	1,000	250	3,500
Southern Maryland El Coop Inc	102	0	202	0	304
UGI Utilities Inc	13	6	15	7	41
Somerset Rural Elec Coop Inc	44	23	3	0	70
Bedford Rural Elec Coop Inc	0	15	13	0	28
Valley Rural Electric Coop Inc	25	25	0	0	50
Central Electric Coop Inc	3	16	0	0	19
Claverack Rural Elec Coop Inc	14	0	0	0	14
MAAC Total	16,947	9,298	4,396	7,162	37,803
MAIN					
Boone Electric Coop	2	2	0	0	4
Central Illinois Pub Serv Co	0	0	0	691	691
Coles-Moultrie Electric Coop	0	50	0	0	50
Columbia City of	120	80	43	0	243
Corn Belt Electric Coop Inc	7	10	0	0	17
Cuivre River Electric Coop Inc	0	2	2	0	4
Eastern Illini Electric Coop	10	20	10	0	40

See footnotes at end of table.

Table 24. U.S. Electric Utility DSM Program Indirect Utility Costs by North American Electric Reliability Council Region and Hawaii by Cost Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Administrative	Marketing	Monitoring and Evaluation	Other ¹	Total Indirect Utility Cost ²
MAIN					
Illinois Power Co	0	0	0	98	98
Madison Gas & Electric Co	361	721	1,075	0	2,157
Marshfield City of	5	3	17	0	25
Menard Electric Coop	1	6	3	0	10
Plymouth City of	0	0	0	15	15
Shelby Electric Coop Inc	5	0	0	0	5
Southeastern IL Elec Coop Inc	0	2	0	0	2
Southwestern Electric Coop Inc	0	100	0	0	100
Springfield City of	60	112	27	0	199
Tri-County Electric Coop Inc	10	5	0	0	15
Wayne-White Counties Elec Coop	1	0	2	0	3
Wisconsin Electric Power Co	12,776	1,852	1,131	2,490	18,249
Wisconsin Power & Light Co	855	0	1,379	0	2,234
Wisconsin Public Power Inc Sys	286	205	80	0	571
Wisconsin Public Service Corp	6,100	0	0	0	6,100
MAIN Total	20,599	3,170	3,769	3,294	30,832
MAPP(U.S.)					
Ames City of	30	24	30	0	84
Austin City of	24	47	3	0	74
Barron Electric Coop	6	6	2	0	14
Cedar Falls City of	41	41	41	0	123
Central Iowa Power Coop	427	570	285	142	1,424
Clark Electric Coop	10	0	0	0	10
Dawson County Public Pwr Dist	0	0	0	5	5
Fairmont Public Utilities Comm	3	0	0	0	3
Freeborn-Mower Electric Coop	14	2	0	0	16
Grant-Lafayette Electric Coop	25	20	10	0	55
IES Utilities Inc	232	1,080	566	478	2,356
Interstate Power Co	196	147	147	0	490
Iowa Lakes Electric Coop	40	395	40	0	475
Marshall City of	10	2	1	0	13
MDU Resources Group Inc	247	396	0	0	643
Nodak Electric Coop Inc	7	5	36	0	48
Midland Power Coop	11	11	5	0	27
Minnkota Power Coop Inc	50	100	0	0	150
Moorhead City of	78	19	0	0	97
Nebraska Public Power District	99	976	6	0	1,081
North Platte City of	0	0	0	3	3
Northern States Power Co	302	984	356	0	1,642
Northwest Iowa Power Coop	10	10	5	0	25
Oakdale Electric Coop	44	65	0	0	109
People's Coop Power Assn	4	14	0	0	18
Pella City of	32	32	0	0	64
Pierre City of	1	0	1	0	2
Rochester Public Utilities	36	0	0	0	36
Runestone Electric Assn	7	2	0	0	9
Superior Water Light&Power Co	29	30	0	0	59
Tri-County Electric Coop	34	22	0	0	56
Verendrye Electric Coop Inc	8	25	2	0	35
Vernon Electric Coop	3	55	0	0	58
Wild Rice Electric Coop Inc	31	58	0	0	89
Municipal Energy Agency of NE	5	3	0	0	8
Midwest Power Systems Inc	610	103	263	1,041	2,017
Cass County Electric Coop Inc	4	40	4	0	48
MAPP(U.S.) Total	2,710	5,284	1,803	1,669	11,466
NPCC(U.S.)					
Bangor Hydro-Electric Co	273	215	47	339	874
Blackstone Valley Electric Co	495	97	141	34	767
Boston Edison Co	7,284	1,127	2,710	277	11,398
Braintree Town of	20	8	0	0	28
Cambridge Electric Light Co	236	0	55	0	291
Central Hudson Gas & Elec Corp	209	251	315	0	775
Central Maine Power Co	1,250	0	250	0	1,500
Central Vermont Pub Serv Corp	2,465	0	618	0	3,083
Chicopee City of	20	20	5	0	45
Commonwealth Electric Co	632	0	309	0	941

See footnotes at end of table.

Table 24. U.S. Electric Utility DSM Program Indirect Utility Costs by North American Electric Reliability Council Region and Hawaii by Cost Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Administrative	Marketing	Monitoring and Evaluation	Other ¹	Total Indirect Utility Cost ²
NPCC(U.S.)					
Concord Electric Co	132	0	8	0	140
Connecticut Light & Power Co	716	0	2,183	718	3,617
Connecticut Valley Elec Co Inc	112	0	50	0	162
Consolidated Edison Co-NY Inc	6,916	1,825	5,847	0	14,588
Eastern Edison Co	965	296	339	73	1,673
Exeter & Hampton Electric Co	117	0	8	0	125
Green Mountain Power Corp	2,231	0	421	1,115	3,767
Holyoke City of	8	0	0	0	8
Hingham City of	0	3	0	0	3
Littleton Town of	57	0	0	0	57
Long Island Lighting Co	2,144	2,938	0	717	5,799
Maine Public Service Co	24	12	0	79	115
Massachusetts Electric Co	4,718	2,070	2,273	0	9,061
Massena Town of	0	1	1	0	2
Montaup Electric Co	1,722	478	552	129	2,881
Narragansett Electric Co	1,373	342	519	0	2,234
New England Power Co	120	0	0	0	120
New York State Elec & Gas Corp	2,857	0	1,123	57	4,037
Newport Electric Corp	263	84	72	18	437
Niagara Mohawk Power Corp	14,921	0	2,240	0	17,161
Norwood City of	0	0	2	0	2
Orange & Rockland Utils Inc	1,125	480	1,014	0	2,619
Power Authority of State of NY	830	0	0	0	830
Public Service Co of NH	63	0	0	0	63
Rochester Gas & Electric Corp	0	0	661	197	858
Shrewsbury Town of	10	2	0	0	12
United Illuminating Co	0	0	1,000	0	1,000
Omny Inc	12	0	1	0	13
Wellesley Town of	0	0	0	18	18
Western Massachusetts Elec Co	264	0	1,177	536	1,977
Granite State Electric Co	252	90	67	0	409
NPCC(U.S.) Total	54,836	10,339	24,008	4,307	93,490
SERC					
Aiken Electric Coop Inc	50	30	0	73	153
Alabama Electric Coop Inc	110	293	5	0	408
Alabama Power Co	0	3,105	174	0	3,279
Albemarle City of	10	5	2	0	17
Altamaha Electric Member Corp	1	1	1	0	3
Berkeley Electric Coop Inc	35	110	80	0	225
Black River Electric Coop Inc	30	5	0	0	35
Blue Ridge Elec Member Corp	0	240	3	0	243
Canoochee Electric Member Corp	18	1	0	0	19
Carolina Power & Light Co	0	0	0	3,700	3,700
Carroll Electric Member Corp	7	7	3	0	17
Carteret-Craven El Member Corp	20	15	0	0	35
Central Georgia El Member Corp	28	18	0	0	46
Coast Electric Power Assn	0	0	5	0	5
Cobb Electric Membership Corp	171	419	0	0	590
Coweta-Fayette El Member Corp	156	313	0	0	469
Crescent Electric Member Corp	3	0	0	0	3
Davidson Electric Member Corp	0	33	0	0	33
Douglas City of	2	2	1	0	5
Duke Power Co	12,050	3,537	1,303	15,254	32,144
Fairfield Electric Coop Inc	6	10	6	0	22
Flint Electric Membership Corp	437	34	0	0	471
Florida Keys El Coop Assn Inc	10	1	0	0	11
Florida Power & Light Co	11,135	0	0	0	11,135
Florida Power Corp	3,868	569	0	347	4,784
Gainesville Regional Utilities	323	33	0	0	356
Grady County Elec Member Corp	2	7	1	0	10
Greenville Utilities Comm	134	0	0	0	134
Haywood Electric Member Corp	4	6	2	0	12
Jackson Electric Member Corp	15	82	22	0	119
Jacksonville Electric Auth	75	75	0	0	150
Jefferson Electric Member Corp	5	4	0	0	9
Jones-Onslow Elec Member Corp	20	50	0	0	70

See footnotes at end of table.

Table 24. U.S. Electric Utility DSM Program Indirect Utility Costs by North American Electric Reliability Council Region and Hawaii by Cost Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Administrative	Marketing	Monitoring and Evaluation	Other ¹	Total Indirect Utility Cost ²
SERC					
Kinston City of	35	3	0	0	38
Lakeland City of	107	24	0	0	131
Laurens Electric Coop Inc	1	1	0	0	2
Lee County Electric Coop Inc	114	0	0	0	114
Leesburg City of	10	5	2	0	17
Lynches River Elec Coop Inc	3	8	1	0	12
Manassas City of	54	18	36	0	108
Mecklenburg Electric Coop Inc	23	0	1	0	24
Mid-Carolina Electric Coop Inc	85	55	0	0	140
Municipal Electric Authority	13	0	0	0	13
New Bern City of	23	5	0	0	28
New River Light & Power Co	2	3	3	0	8
North Carolina Mun Power Agny	160	167	40	0	367
Northern Virginia Elec Coop	20	68	5	0	93
North Carolina Eastern M P A	120	186	20	0	326
Northern Neck Elec Coop Inc	5	5	0	0	10
Palmetto Electric Coop Inc	112	84	2	0	198
Orlando Utilities Comm	172	391	0	0	563
Piedmont Electric Member Corp	21	11	0	0	32
Prince George Electric Coop	1	0	0	0	1
Randolph Electric Member Corp	0	0	4	0	4
Rayle Electric Membership Corp	2	2	0	0	4
Reedy Creek Improvement Dist	32	5	15	0	52
Roanoke Electric Member Corp	3	6	1	0	10
Rutherford Elec Member Corp	6	356	27	27	416
Satilla Rural Elec Member Corp	1	2	1	0	4
Savannah Electric & Power Co	325	111	100	0	536
Sawnee Electric Members Corp	17	21	32	0	70
Shenandoah Valley Elec Coop	28	22	0	0	50
Singing River Elec Power Assn	3	2	1	0	6
South Carolina Electric&Gas Co	770	174	140	141	1,225
South Carolina Pub Serv Auth	790	0	122	0	912
Snapping Shoals El Member Corp	60	0	0	243	303
Sumter Electric Coop Inc	33	120	0	0	153
Tallahassee City of	180	15	0	0	195
Tampa Electric Co	194	0	0	0	194
Tennessee Valley Authority	0	0	0	66,670	66,670
Thomasville City of	0	0	0	46	46
Tri-County Elec Member Corp	10	2	2	0	14
Virginia Electric & Power Co	629	3,206	516	235	4,586
Wake Electric Membership Corp	50	0	0	0	50
Walton Electric Member Corp	0	50	0	0	50
Washington Elec Member Corp	1	0	10	0	11
York Electric Coop Inc	10	8	2	22	42
Southside Electric Coop Inc	10	2	0	0	12
Brunswick Electric Member Corp	22	75	37	0	134
Colquitt Electric Members Corp	12	337	0	0	349
Central Electric Pwr Coop Inc	0	665	0	0	665
SERC Total	32,994	15,220	2,728	86,758	137,700
SPP					
Carroll Electric Coop Corp	1	1	6	0	8
Craighead Electric Coop Corp	33	23	54	0	110
Duncan City of	35	0	0	0	35
First Electric Coop Corp	10	4	15	0	29
Golden Spread Elec Coop Inc	5	0	0	55	60
Gulf States Utilities Co	100	50	50	0	200
Independence City of	39	1	5	0	45
Oklahoma Gas & Electric Co	221	0	0	0	221
Ozark Electric Coop Inc	1	0	0	0	1
Petit Jean Electric Coop Corp	18	0	0	0	18
Red River Valley Rrl Elec Assn	2	0	2	0	4
South Central Ark El Coop Inc	0	0	0	1	1
Southwestern Electric Power Co	108	227	72	0	407
Verdigris Valley Elec Coop Inc	5	0	12	0	17
White River Valley El Coop Inc	0	0	6	0	6

See footnotes at end of table.

Table 24. U.S. Electric Utility DSM Program Indirect Utility Costs by North American Electric Reliability Council Region and Hawaii by Cost Category, 1993
(Thousand Dollars) (Continued)

North American Electric Reliability Council Region and Hawaii / Electric Utility	Administrative	Marketing	Monitoring and Evaluation	Other ¹	Total Indirect Utility Cost ²
SPP					
Woodruff Electric Coop Corp	0	0	10	0	10
SPP Total	578	306	232	56	1,172
WSCC(U.S.)					
Alameda City of	85	0	0	0	85
Anaheim City of	500	50	25	0	575
Arizona Electric Pwr Coop Inc	150	0	150	0	300
Arizona Public Service Co	1,000	1,190	100	0	2,290
Bonneville Power Admin	37,900	0	2,000	0	39,900
Bountiful City City of	1	3	2	0	6
PUD No 1 of Chelan County	300	0	0	0	300
Colorado Springs City of	0	0	0	265	265
El Paso Electric Co	215	0	146	0	361
Forest Grove City of	32	0	0	0	32
Fort Collins City of	164	0	0	0	164
La Plata Electric Assn Inc	5	2	0	0	7
Longmont City of	60	5	0	0	65
Los Angeles City of	1,071	533	231	0	1,835
Loveland City of	35	15	0	0	50
Montana Power Co	2,244	44	357	743	3,388
Navopache Electric Coop Inc	9	2	14	19	44
Nevada Power Co	282	0	0	0	282
Pacific Gas & Electric Co	2,500	0	3,722	0	6,222
Portland General Electric Co	0	0	345	0	345
Public Service Co of Colorado	0	250	0	0	250
Puget Sound Power & Light Co	50	883	1,604	53	2,590
Riverside City of	74	11	15	0	100
Roseville City of	32	0	6	0	38
Sacramento Municipal Util Dist	0	0	0	2,387	2,387
Salt River Proj Ag I & P Dist	3,534	1,615	574	0	5,723
San Diego Gas & Electric Co	0	0	3,924	1,933	5,857
Seattle City of	4,020	0	0	0	4,020
Sierra Pacific Power Co	93	0	204	570	867
Southern California Edison Co	0	0	16,566	5,563	22,129
Springfield City of	334	0	0	0	334
Sulphur Springs Valley E C Inc	5	50	5	0	60
Turlock Irrigation District	86	0	3	0	89
Black Hills Corp	367	0	0	0	367
Vera Irrigation District #15	38	0	0	0	38
Vernon City of	92	0	30	0	122
Washington Water Power Co	2,155	0	314	0	2,469
Mohave Electric Coop Inc	2	10	5	0	17
WSCC(U.S.) Total	57,435	4,663	30,342	11,533	103,973
Contiguous U.S.	193,713	58,885	73,227	128,162	453,987
ASCC					
Alaska Electric Light&Power Co	7	2	2	0	11
Golden Valley Elec Assn Inc	199	39	0	0	238
ASCC Total	206	41	2	0	249
Hawaii					
Maui Electric Co Ltd	5	25	0	0	30
Hawaii Total	5	25	0	0	30
U.S. Total	193,924	58,951	73,229	128,162	454,266

¹ Includes the indirect costs of demand-side management programs that cannot be meaningfully included in any of the other cost categories, including costs incurred in the research and development of demand-side management technologies.

² Reflects electric costs incurred during the year that are not meaningfully identified with any particular demand-side management program category, but can be attributed to one of several accounting cost categories.

Notes: *Data are final. *Data are provided for electric utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatt-hours.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Appendix A

Technical Notes

Technical Notes

Source of Data

The *U.S. Electric Utility Demand-Side Management* report is prepared by the Coal and Electric Data and Renewables Division; Office of Coal, Nuclear, Electric and Alternate Fuels; Energy Information Administration (EIA); U.S. Department of Energy (DOE). Data published in the *U.S. Electric Utility Demand-Side Management* report are compiled from the Form EIA-861, "Annual Electric Utility Report" which is summarized below:

Form EIA-861

The Form EIA-861 is a mandatory census of electric utilities in the United States, its territories, and Puerto Rico. The Form EIA-861 data contained in this publication are for the United States only. The survey is used to collect information on power production and sales of electricity from approximately 3,250 electric utilities. The data collected are used to update the electric utility frame database maintained by the EIA. This database supports queries from the Executive Branch, Congress, other public agencies, and the general public. Summary data from the Form EIA-861 are also contained in the *Electric Power Annual*; *Electric Sales and Revenue*; *Financial Statistics of Major U.S. Investor-Owned Electric Utilities*; *Financial Statistics of Major U.S. Publicly Owned Electric Utilities*; *Annual Energy Outlook*; *Electric Trade in the United States*; *Annual Energy Review*; *Monthly Energy Review*, and *Electric Power Monthly*. These reports present aggregate totals for electric utilities on national, State, and NERC Region levels and by ownership class and consumer class of service.

Demand-side management data are collected on Schedule V, "Demand-Side Management Information," of the Form EIA-861. Collected are data on DSM costs, annual and incremental effects for energy savings and for actual and potential peakload reductions. Also collected is information on the end use and type of energy efficiency programs. Demand-side management data collected on the Form EIA-861 are estimated by electric utilities based on engineering data, statistical analysis, or other estimation methods. The form was revised for the 1993 data collection to collect information on estimation methodologies used

by utilities to derive DSM data and the methods used for verification of the estimated energy effects.

EIA collects information on DSM activities from all utilities with DSM programs. DSM data are aggregated at the NERC region and consumer sector levels. Utilities with sales to ultimate consumers or sales for resale greater than or equal to 120,000 megawatthours report incremental peakload reductions and energy savings for the reporting year, annual peakload reductions and energy savings for the reporting year and first- and fifth-forecast years, itemized direct and indirect utility costs and nonutility cost attributable to DSM programs for all 3 years, end use and type of energy efficiency programs, and evaluation and verification data. Annual and incremental effects for the reporting year are reported by consumer sector (residential, commercial, industrial, other) for each program category (energy efficiency, direct load control, interruptible load, other load management, other DSM programs, and load building). Forecast peakload reductions and energy savings are reported by program category with all consumer sectors combined. Utilities with sales to ultimate consumers and sales for resale less than 120,000 megawatthours report selected items: incremental peakload reductions and energy savings, total utility cost, total nonutility cost, and total DSM cost for the reporting year and first- and fifth-forecast years, end use and type of energy efficiency programs, and evaluation and verification data. In years prior to 1992, utilities with sales less than 120,000 megawatthours did not report on DSM activities.

Instrument and Design History. The Form EIA-861 was implemented in January 1985 to collect data as of year-end 1984. Schedule V, "Demand-Side Management Information," was added to the survey in 1990 to collect data for year-end 1989. Schedule V was revised for the 1991 collection and again for the 1993 year-end collection. The Federal Administration Act of 1974 (Public Law 93-275) and the Energy Policy Act of 1992 define the legislative authority to collect these data.

Data Processing. The Form EIA-861 is mailed to the respondents in January to collect data as of the end of the preceding calendar year. The completed forms are to be returned to the EIA by May 1. Internal edit checks are performed to verify that current data are comparable to data reported the previous year.

Voltage Reduction.

Voltage reduction, though not considered a DSM program, may be used by utilities to reduce load since power provided to the consumers is a function of both voltage and current. Voltage reduction is mainly used in emergency situations, although some utilities use it to reduce demand during peakload periods under normal operating conditions.

During normal operating conditions, utilities provide service to retail consumers within a range of voltages (e.g., 120v $\pm$ 5 percent). States generally promulgate rules that describe the service utilities must provide to customers, including voltage levels. During emergency situations, utilities are allowed to go beyond the normal operating range to a limited extent. Most systems that use voltage reduction during emergencies limit the variation to a maximum of 5 percent outside of normal operating limits, but some go as high as 8 percent. The reduction applied may be any level up to the maximum, depending on the circumstances. Although the emergency voltage reductions go outside of the normal ranges, they are implemented for short periods of time (as little as 10 minutes to an hour). Voltage reduction is effected by reducing the voltage at customer-level substations (distribution system), either manually or remotely, if the utility system is fully automated. A voltage reduction can be made for one area of a utility's service territory, or for an entire utility system.

The amount of power that is saved when voltage is reduced depends on many factors including the types of load and the relative proportions of those loads at the time the voltage is reduced. Since load mix and level varies by season and time of day, the impacts of voltage reduction will vary accordingly. The potential peakload savings that may be achieved under a set of specific circumstances for a 5 percent reduction in voltage, can range from negligible to 5 percent of summer peak load, with most savings being less than 3 percent of winter or summer peak load.

Some utilities also use the term "voltage reduction" to include improvements in their distribution system that allow them to operate at lower nominal voltages. By investing in improved voltage regulators, line reconditioning, and other distribution equipment, utilities can lower substation operating voltage and still provide customers with adequate voltage, thereby saving energy. When the savings are adequate to justify the investment, utilities may implement such a program and refer to it as voltage reduction or conservation voltage reduction.

The Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF) is responsible for routine data improvement and quality assurance activities. All operations in this office are done in accordance with formal standards established by the EIA. These standards are the measuring rod necessary for quality statistics. Data improvement efforts include verification of data-keyed input by automatic computerized methods, editing by subject matter specialists, and follow up on nonrespondents. The CNEAF office supports the quality assurance efforts of the data collectors by providing advisory reviews of the structure of information requirements and of proposed designs for new and revised data collection forms and systems. Once implemented, the actual performance of working data collection systems is also validated. Computerized respondent data files are checked to identify those who fail to respond to the survey. By law, nonrespondents may be fined or otherwise penalized for not filing a mandatory EIA data form. Before invoking the law, the EIA tries to obtain the required information by encouraging cooperation of nonrespondents.

Completed forms received by the CNEAF office are sorted, screened for completeness of reported information, and keyed onto computer tapes for storage and transfer to random access data bases for computer processing. The information coded on the computer tapes is manually spot-checked against the forms to certify accuracy of the tapes. To ensure the quality standards established by the EIA, formulas that use the past history of data values in the data base have been designed and implemented to check data input for errors automatically. Data values that fall outside the ranges prescribed in the formulas are verified by telephoning respondents to resolve any discrepancies.

Data Editing System

Data from the form surveys are edited using automated systems. The edit includes both deterministic checks, in which records are checked for the presence of required fields and their validity; and statistical checks, in which estimation techniques are used to validate data according to their behavior in the past and in comparison to other current fields.

Confidentiality of the Data

The data collected on the Form EIA-861 used for input to this report are not confidential.

Rounding Rules for Data

Given a number with r digits to the left of the decimal and $d+t$ digits in the fraction part, with d being the place to which the number is to be rounded and t being the remaining digits which will be truncated, this number is rounded to $r+d$ digits by adding 5 to the $(r+d+1)$ th digit when the number is positive or by subtracting 5 when the number is negative. The t digits are then truncated at the $(r+d+1)$ th digit. The symbol for a rounded number truncated to zero is (*).

Percent Difference Calculation

The following formula is used to calculate percent differences.

$$\text{Percent Difference} = \left(\frac{x(t_2) - x(t_1)}{x(t_1)} \right) \times 100,$$

where $x(t_1)$ and $x(t_2)$ denote the quantity at year t_1 and subsequent year t_2 .

CNEAF Data Revision and Policy

The Office of Coal, Nuclear, Electric and Alternate Fuels has adopted the following policy with respect to the revision and correction of recurrent data in energy publications:

1. Annual survey data collected by this office are published either as preliminary or final when first appearing in a data report. Data initially released as preliminary will be so noted in the report. These data will be revised, if necessary, and declared final in the next publication of the data.
2. The magnitude of changes due to revisions experienced in the past will be included in the data reports, so that the reader can assess the accuracy of the data.
3. After data are published as final, corrections will be made only in the event of a greater than one percent difference at the national level. Corrections for differences that are less than the before-mentioned threshold are left to the discretion of the Office Director.

The *U.S. Electric Utility Demand-Side Management* (DSM) report presents the most current annual data available to the EIA. The statistics may differ from those published previously in EIA publications due to corrections, revisions, or other adjustments to the data

subsequent to its original release. The status (preliminary versus final) of DSM data published by EIA follows:

- **U.S. Electric Utility Demand-Side Management**
Data on demand-side management from the Form EIA-861 for 1993 and previous years are final. A comparison of preliminary versus final data at the national level for 1993 will be provided in the Electric Power Annual 1994.
- **Electric Power Annual 1993**
The chapter in the Electric Power Annual for DSM contains data on demand-side management from the Form EIA-861 for 1993 that are preliminary. Data for previous years are final.

Corrections were made to data for 1989, 1990, 1991 and 1992 that previously was published as final in the Electric Power Annual 1993. These corrections are contained in Table A2.

Use of the Glossary

The terms in the glossary have been defined for general use. Restrictions on the definitions as used in these data collection systems are included in each definition when necessary to define the terms as they are used in this report.

Obtaining Copies of Data

The data are available on machine-readable tapes. Tapes may be purchased by using Visa, MasterCard, or American Express cards as well as money orders or checks payable to the National Technical Information Service (NTIS). Purchasers may also use NTIS and Government Printing Office depository accounts. To place an order, contact:

National Technical Information Service (NTIS)
Office of Data Base Services
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161
(703) 487-4650

The data for 1991, 1992, and 1993 filed on the Form EIA-861 are also available on the Internet in compressed format through FTP at <ftp.fedworld.gov>, or through use of a world-wide-web browser such as Mosaic at www.fedworld.gov, in the /pub/energy subdirectory.

Table A1. Unit-of-Measure Equivalents

Unit	Equivalent			
Kilowatt (kW)	1,000	(One Thousand)	Watts	
Megawatt (MW)	1,000,000	(One Million)	Watts	
Gigawatt (GW)	1,000,000,000	(One Billion)	Watts	
Terawatt (TW)	1,000,000,000,000	(One Trillion)	Watts	
Gigawatt	1,000,000	(One Million)	Kilowatts	
Thousand Gigawatts	1,000,000,000	(One Billion)	Kilowatts	
Kilowatthours (kWh)	1,000	(One Thousand)	Watthours	
Megawatthours (MWh)	1,000,000	(One Million)	Watthours	
Gigawatthours (GWh)	1,000,000,000	(One Billion)	Watthours	
Terawatthours (TWh)	1,000,000,000,000	(One Trillion)	Watthours	
Gigawatthours	1,000,000	(One Million)	Kilowatthours	
Thousand Gigawatthours	1,000,000,000	(One Billion)	Kilowatthours	

Source: Energy Information Administration, Coal and Electric Data and Renewables Division.

Table A2. Corrections to DSM Data, 1989 through 1992

Utility	1989	1990		1991			1992	
	Energy Savings (MWh)	Energy Savings (MWh)	Actual Peakload Reduction (kW)	Energy Savings (MWh)	Actual Peakload Reduction (kW)	Cost (\$1000)	Energy Savings (MWh)	Cost (\$1000)
Bonneville Power Administration	-2,054,763	-1,649,639	--	-1,599,567	--	-55,840	-1,830,108	-104,824
Carolina Power and Light	3,651,234	3,578,860	1,068,000	4,417,700	1,120,000	--	--	--
Southern California Edison	--	-3,717,000	--	-4,324,000	--	--	--	--
Other ¹	--	--	--	--	--	--	2,431,108	--
Total	1,596,471	-1,787,779	1,068,000	-1,505,867	1,120,000	-55,840	601,000	-104,824

¹Other includes, City of Ashland, PUD No. 1 of Benton County, Canby Utility Board, PUD No. 1 of Chelan County, City of Eugene, City of Forest Grove, PUD No. 1 of Lewis County, PUD No. 2 of Grant County, City of Port Angeles, Salem Electric Cooperative, PUD No. 1 of Snohomish County, City of Tacoma, Vera Irrigation District No. 15, and Columbia River Peoples Utility District.

Source: Energy Information Administration, Form EIA-861, "Annual Electric Utility Report."

Appendix B

Glossary

Appendix B

Glossary

Actual Peakload Reduction: The actual reduction in annual peak load (measured in kilowatts) achieved by consumers that participate in a utility DSM program. It reflects the real changes in the demand for electricity resulting from a utility DSM program that is in effect at the same time the utility experiences its annual peak load, as opposed to the installed peakload reduction capability (i.e., Potential Peakload Reduction). It should account for the regular cycling of energy efficient units during the period of annual peak load.

Annual Effects: The total effects in energy use (measured in megawatthours) and peak load (measured in kilowatts) caused by all participants in the DSM programs that are in effect during a given year. It includes new and existing participants in existing programs (those implemented in prior years that are in place during the given year) and all participants in new programs (those implemented during the given year). The effects of new participants in existing programs and all participants in new programs should be based on their start-up dates (i.e., if participants enter a program in July, only the effects from July to December should be reported). If start-up dates are unknown and cannot be reasonably estimated, the effects can be annualized (i.e., assume the participants were initiated into the program on January 1 of the given year). The Annual Effects should consider the useful life of efficiency measures, by accounting for building demolition, equipment degradation and attrition.

Appliances: Energy Efficiency program promotion of high efficiency appliances such as dishwashers, ranges, refrigerators, and freezers in the residential, commercial, and industrial sectors. Includes programs aimed at improving the efficiency of refrigeration equipment and electrical cooking equipment, including replacement. It also includes the promotion and identification of high efficiency appliances in retail stores using a labeling system different from the Federally-mandated Energy Guide. Energy Efficiency program promotion of high efficiency cooling and heating appliances are included under Cooling System and Heating System, respectively.

Asset: An economic resource, tangible or intangible, which is expected to provide benefits to a business.

Average Revenue per Kilowatthour: The average revenue per kilowatthour of electricity sold by sector

(residential, commercial, industrial, or other) and geographic area (State, Census division, and national), is calculated by dividing the total monthly revenue by the corresponding total monthly sales for each sector and geographic area.

Baseload: The minimum amount of electric power delivered or required over a given period of time at a steady rate.

Baseload Capacity: The generating equipment normally operated to serve loads on an around-the-clock basis.

Baseload Plant: A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate and runs continuously. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs.

Capacity (Purchased): The amount of energy and capacity available for purchase from outside the system.

Capacity Charge: An element in a two-part pricing method used in capacity transactions (energy charge is the other element). The capacity charge, sometimes called Demand Charge, is assessed on the amount of capacity being purchased.

Census Divisions: The nine geographic divisions of the United States established by the Bureau of the Census, U.S. Department of Commerce, for the purpose of statistical analysis. The boundaries of Census divisions coincide with State boundaries. The Pacific Division is subdivided into the Pacific Contiguous and Pacific Noncontiguous areas.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes. To receive status as a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA), the facility must produce electric energy and "another form of useful thermal energy through the sequential use of energy," and meet certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory

Commission (FERC). (See the code of Federal Regulations, Title 18, Part 292.)

Coincidental Peak Load: The sum of two or more peak loads that occur in the same time interval.

Commercial: The commercial sector is generally defined as nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and health, social, and educational institutions. The utility may classify commercial service as all consumers whose demand or annual use exceeds some specified limit. The limit may be set by the utility based on the rate schedule of the utility.

Commercial Operation: Commercial operation begins when control of the loading of the generator is turned over to the system dispatcher.

Conservation and Other DSM: This Demand-Side Management category represents the amount of consumer peakload reduction at the time of system peak due to utility programs that reduce consumer load during many hours of the year. Examples include utility rebate and shared savings activities for the installation of energy efficient appliances, lighting and electrical machinery, and weatherization materials. In addition, this category includes all other Demand-Side Management activities, such as thermal storage, time-of-use rates, fuel substitution, measurement and evaluation, and any other utility-administered Demand-Side Management activity designed to reduce demand and/or electricity use.

Cooling System: Energy Efficiency program promotion aimed at improving the efficiency of the cooling delivery system, including replacement, in the residential, commercial, or industrial sectors.

Cooperative Electric Utility: An electric utility legally established to be owned by and operated for the benefit of those using its service. The utility company will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility. Such ventures are generally exempt from Federal income tax laws. Most electric cooperatives have been initially financed by the Rural Electrification Administration, U.S. Department of Agriculture.

Cost: The amount paid to acquire resources, such as plant and equipment, fuel, or labor services.

Demand (Electric): The rate at which electric energy is delivered to or by a system, part of a system, or piece of equipment, at a given instant or averaged over any designated period of time.

Demand-Side Management: The planning, implementation, and monitoring of utility activities designed to encourage consumers to modify patterns of electricity usage, including the timing and level of electricity demand. It refers only to energy and load-shape modifying activities that are undertaken in response to utility-administered programs. It does not refer to energy and load-shape changes arising from the

normal operation of the marketplace or from government-mandated energy-efficiency standards. Demand-Side Management (DSM) covers the complete range of load-shape objectives, including strategic conservation and load management, as well as strategic load growth.

Demand-Side Management Cost: The cost incurred by the utility to achieve the capacity and energy savings from the Demand-Side Management Program. Costs (expenditures) incurred by consumers or third parties are to be excluded. The costs are to be reported in nominal dollars in the year in which they are incurred, regardless of when the savings occur. Program costs include expensed items incurred to implement the program, incentive payments provided to consumers to install Demand-Side Management measures, and annual operation and maintenance expenses incurred during the year. Utility costs that are general, administrative, or not specific to a particular Demand-Side Management category are to be included in "other" costs.

Direct Load Control: Refers to program activities that can interrupt consumer load at the time of annual peak load by direct control of the utility system operator by interrupting power supply to individual appliances or equipment on consumer premises. This type of control usually involves residential consumers. Direct Load Control excludes Interruptible Load and Other Load Management effects. (Direct Load Control, as defined here, is synonymous with Direct Load Control Management reported to the North American Electric Reliability Council on the voluntary Office of Energy Emergency Operations Form OE-411, "Coordinated Regional Bulk Power Supply Program Report," with the exception that annual peakload effects are reported here and seasonal (i.e., summer and winter) peakload effects are reported on the OE-411.)

Direct Utility Cost: A utility cost that is identified with one of the DSM program categories (i.e. Energy Efficiency, Direct Load Control, Interruptible Load, Other Load Management, Other DSM Programs, Load Building).

Electric Plant (Physical): A facility containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric Rate Schedule: A statement of the electric rate and the terms and conditions governing its application, including attendant contract terms and conditions that have been accepted by a regulatory body with appropriate oversight authority.

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public and files forms listed in the Code of Federal Regulations, Title 18, Part 141. Facilities that qualify as cogenerators or

small power producers under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

Energy Charge: That portion of the charge for electric service based upon the electric energy (kWh) consumed or billed.

Energy Deliveries: Energy generated by one electric utility system and delivered to another system through one or more transmission lines.

Energy Effects: The changes in aggregate electricity use (measured in megawatthours) for customers that participate in a utility DSM program. Energy Effects should represent changes at the consumer meter (i.e. exclude transmission and distribution effects) and reflect only activities that are undertaken specifically in response to utility-administered programs, including those activities implemented by third parties under contract to the utility. To the extent possible, Energy Effects should exclude non-program related effects such as changes in energy usage attributable to non-participants, government-mandated energy-efficiency standards that legislate improvements in building and appliance energy usage, changes in consumer behavior that result in greater energy use after initiation in a DSM program, the natural operations of the marketplace, and weather and business-cycle adjustments.

Energy Efficiency: Refers to programs that are aimed at reducing the energy used by specific end-use devices and systems, typically without affecting the services provided. These programs reduce overall electricity consumption (reported in megawatthours), often without explicit consideration for the timing of program-induced savings. Such savings are generally achieved by substituting technically more advanced equipment to produce the same level of end-use services (e.g. lighting, heating, motor drive) with less electricity. Examples include high-efficiency appliances, efficient lighting programs, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems.

Energy Receipts: Energy generated by one electric utility system and received by another system through one or more transmission lines.

Energy Source: The primary source that provides the power that is converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, water, uranium, wind, sunlight, geothermal, and other sources.

Expenditure: The incurrence of a liability to obtain an asset or service.

Facility: An existing or planned location or site at which prime movers, electric generators, and/or equipment for converting mechanical, chemical, and/or nuclear energy into electric energy are situated, or will be situated. A facility may contain more than one generator of either the same or different prime mover type. For a cogenerator, the facility includes the industrial or commercial process.

Federal Energy Regulatory Commission (FERC): A quasi-independent regulatory agency within the Department of Energy having jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification.

Federal Power Commission: The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission (FPC) was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. The FPC was abolished on September 20, 1977, when the Department of Energy was created. The functions of the FPC were divided between the Department of Energy and the Federal Energy Regulatory Commission.

FERC: The Federal Energy Regulatory Commission.

Firm Power: Power or power-producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Forced Outage: The shutdown of a generating unit, transmission line or other facility, for emergency reasons or a condition in which the generating equipment is unavailable for load due to unanticipated breakdown.

Generating Unit: Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Generation (Electricity): The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced, expressed in watthours (Wh).

Gross Generation: The total amount of electric energy produced by the generating units at a generating station or stations, measured at the generator terminals.

Net Generation: Gross generation less the electric energy consumed at the generating station for station use.

Generator: A machine that converts mechanical energy into electrical energy.

Generator Nameplate Capacity: The full-load continuous rating of a generator, prime mover, or other electric power production equipment under specific conditions as designated by the manufacturer. Installed generator nameplate rating is usually indicated on a nameplate physically attached to the generator.

Grid: The layout of an electrical distribution system.

Gross Generation: The total amount of electric energy produced by a generating facility, as measured at the generator terminals.

Heating System: Energy Efficiency program promotion aimed at improving the efficiency of the heating delivery system, including replacement, in the residential, commercial, or industrial sectors.

Incremental Effects: The annual effects in energy use (measured in megawatthours) and peak load (measured in kilowatts) caused by new participants in existing DSM programs and all participants in new DSM programs during a given year. Reported Incremental Effects should be annualized to indicate the program effects that would have occurred had these participants been initiated into the program on January 1 of the given year. Incremental effects are not simply the Annual Effects of a given year minus the Annual Effects of the prior year, since these net effects would fail to account for program attrition, degradation, demolition, and participant dropouts.

Indirect Utility Cost: A utility cost that may not be meaningfully identified with any particular DSM program category. Indirect costs could be attributable to one of several accounting cost categories (i.e., Administrative, Marketing, Monitoring & Evaluation, Utility-Earned Incentives, Other). Accounting costs that are known DSM program costs should not be reported under Indirect Utility Cost, rather those costs should be reported as Direct Utility Costs under the appropriate DSM program category.

Industrial: The industrial sector is generally defined as manufacturing, construction, mining agriculture, fishing and forestry establishments Standard Industrial Classification (SIC) codes 01-39. The utility may classify industrial service using the SIC codes, or based on demand or annual usage exceeding some specified limit. The limit may be set by the utility based on the rate schedule of the utility.

Interruptible Load: Refers to program activities that, in accordance with contractual arrangements, can interrupt consumer load at times of seasonal peak load by direct control of the utility system operator or by action of the consumer at the direct request of the

system operator. It usually involves commercial and industrial consumers. In some instances the load reduction may be affected by direct action of the system operator (remote tripping) after notice to the consumer in accordance with contractual provisions. For example, loads that can be interrupted to fulfill planning or operation reserve requirements should be reported as Interruptible Load. Interruptible Load as defined here excludes Direct Load Control and Other Load Management. (Interruptible Load, as reported here, is synonymous with Interruptible Demand reported to the North American Electric Reliability Council on the voluntary Office of Energy Emergency Operations Form OE-411, "Coordinated Regional Bulk Power Supply Program Report," with the exception that annual peakload effects are reported on the Form EIA-861 and seasonal (i.e., summer and winter) peakload effects are reported on the OE-411).

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watthours.

Liability: An amount payable in dollars or by future services to be rendered.

Load (Electric): The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

Load Building: Refers to programs that are aimed at increasing the usage of existing electric equipment or the addition of electric equipment. Examples include industrial technologies such as induction heating and melting, direct arc furnaces and infrared drying; cooking for commercial establishments; and heat pumps for residences. Load Building should include programs that promote electric fuel substitution. Load Building effects should be reported as a negative number, shown with a minus sign.

Marketing Cost: Expenses directly associated with the preparation and implementation of the strategies designed to encourage participation in a DSM program. The category excludes general market and load research costs.

Monitoring & Evaluation Cost: Expenditures associated with the planning, collection, and analysis of data used to assess program operation and effects. It includes the activities such as load metering, customer surveys, new technology testing, and program evaluations that are intended to establish or improve the ability to monitor and evaluate the impacts of DSM programs, collectively or individually.

Maximum Demand: The greatest of all demands of the load that has occurred within a specified period of time.

Megawatt (MW): One million watts.

Megawatthour (MWh): One million watthours.

Net Capability: The maximum load-carrying ability of the equipment, exclusive of station use, under specified conditions for a given time interval, independent of the characteristics of the load. (Capability is determined by design characteristics, physical conditions, adequacy of prime mover, energy supply, and operating limitations such as cooling and circulating water supply and temperature, headwater and tailwater elevations, and electrical use.)

Net Generation: Gross generation minus plant use from all electric utility owned plants. The energy required for pumping at a pumped-storage plant is regarded as plant use and must be deducted from the gross generation.

Net Summer Capability: The steady hourly output, which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of summer peak load.

Net Winter Capability: The steady hourly output which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of winter peak load.

New Construction: Energy-efficiency program promotion to encourage the building of new homes, buildings, and plants to exceed standard government-mandated energy efficiency codes; it may include major renovations of existing facilities.

Noncoincidental Peak Load: The sum of two or more peak loads on individual systems that do not occur in the same time interval. Meaningful only when considering loads within a limited period of time, such as a day, week, month, a heating or cooling season, and usually for not more than 1 year.

North American Electric Reliability Council (NERC): A council formed in 1968 by the electric utility industry to promote the reliability and adequacy of bulk power supply in the electric utility systems of North America. NERC consists of ten regional reliability councils and encompasses essentially all the power regions of the contiguous United States, Canada, and Mexico. The NERC Regions are:

ASCC - Alaskan System Coordination Council

ECAR - East Central Area Reliability Coordination Agreement

ERCOT - Electric Reliability Council of Texas

MAIN - Mid-America Interconnected Network

MAAC - Mid-Atlantic Area Council

MAPP - Mid-Continent Area Power Pool

NPCC - Northeast Power Coordinating Council

SERC - Southeastern Electric Reliability Council

SPP - Southwest Power Pool

WSCC - Western Systems Coordinating Council

Other Cost: A residual category to capture the Indirect Costs of DSM programs that cannot be meaning-

fully included in any of the other cost categories listed and defined herein. Included are costs such as those incurred in the research and development of DSM technologies.

Other DSM Programs: A residual category to capture the effects of DSM programs that cannot be meaningfully included in any of the program categories listed and defined herein. The energy effects attributable to this category should be the net effects of all the residual programs. Programs that promote consumer's substitution of electricity by other energy types should be included in Other DSM Programs. Also, self-generation should be included in Other DSM Programs to the extent that it is not accounted for as backup generation in Other Load Management or Interruptible Load categories.

Other Incentives: Energy Efficiency programs that offer cash or noncash awards to electric energy efficiency deliverers, such as appliance and equipment dealers, building contractors, and architectural and engineering firms, that encourage consumer participation in a DSM program and adoption of recommended measures.

Other Load Management: Refers to programs other than Direct Load Control and Interruptible Load that limit or shift peak load from on-peak to off-peak time periods. It includes technologies that primarily shift all or part of a load from one time-of-day to another and secondarily may have an impact on energy consumption. Examples include space heating and water heating storage systems, cool storage systems, and load limiting devices in energy management systems. This category also includes programs that aggressively promote time-of-use (TOU) rates and other innovative rates such as real time pricing. These rates are intended to reduce consumer bills and shift hours of operation of equipment from on-peak to off-peak periods through the application of time-differentiated rates.

Outage: The period during which a generating unit, transmission line, or other facility is out of service.

Peak Demand: The maximum load during a specified period of time.

Peaking Capacity: Capacity of generating equipment normally reserved for operation during the hours of highest daily, weekly, or seasonal loads. Some generating equipment may be operated at certain times as peaking capacity and at other times to serve loads on an around-the-clock basis.

Percent Difference: The relative change in a quantity over a specified time period. It is calculated as follows: the current value has the previous value subtracted from it; this new number is divided by the absolute value of the previous value; then this new number is multiplied by 100.

Planned Generator: A proposal by a company to install electric generating equipment at an existing or planned facility or site. The proposal is based on the

owner having obtained (1) all environmental and regulatory approvals, (2) a signed contract for the electric energy, or (3) financial closure for the facility.

Potential Peakload Reduction: The amount of annual peakload reduction capability (measured in kilowatts) that can be deployed from Direct Load Control, Interruptible Load, Other Load Management, and Other DSM Program activities. It represents the load that can be reduced either by the direct control of the utility system operator or by the consumer in response to a utility request to curtail load. It reflects the installed load reduction capability, as opposed to the Actual Peak Reduction achieved by participants, during the time of annual system peak load.

Power: The rate at which energy is transferred. Electrical energy is usually measured in watts. Also used for a measurement of capacity.

Power Pool: An association of two or more interconnected electric systems having an agreement to coordinate operations and planning for improved reliability and efficiencies.

Price: The amount of money or consideration-in-kind for which a service is bought, sold, or offered for sale.

Process Heating: Energy Efficiency program promotion of increased electric energy efficiency applications in industrial process heating.

Profit: The income remaining after all business expenses are paid.

Public Street and Highway Lighting: Public street and highway lighting includes electricity supplied and services rendered for the purposes of lighting streets, highways, parks, and other public places; or for traffic or other signal system service, for municipalities, or other divisions or agencies of State or Federal governments. Part 292.

Rate Base: The value of property upon which a utility is permitted to earn a specified rate of return as established by a regulatory authority. The rate base generally represents the value of property used by the utility in providing service and may be calculated by any one or a combination of the following accounting methods: fair value, prudent investment, reproduction cost, or original cost. Depending on which method is used, the rate base includes cash, working capital, materials and supplies, and deductions for accumulated provisions for depreciation, contributions in aid of construction, customer advances for construction, accumulated deferred income taxes, and accumulated deferred investment tax credits.

Ratemaking Authority: A utility commission's legal authority to fix, modify, approve, or disapprove rates, as determined by the powers given the commission by a State or Federal legislature.

Regulation: The governmental function of controlling or directing economic entities through the process of rulemaking and adjudication.

Reserve Margin (Operating): The amount of unused available capability of an electric power system at peak load for a utility system as a percentage of total capability.

Residential: The residential sector is defined as private household establishments which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking and clothes drying. The classification of an individual consumer's account, where the use is both residential and commercial, is based on principal use. For the residential class, do not duplicate consumer accounts due to multiple metering for special services (water, heating, etc.). Apartment houses are also included.

Retail: Sales covering electrical energy supplied for residential, commercial, and industrial end-use purposes. Other small classes, such as agriculture and street lighting, also are included in this category.

Revenue: The total amount of money received by a firm from sales of its products and/or services, gains from the sales or exchange of assets, interest and dividends earned on investments, and other increases in the owner's equity except those arising from capital adjustments.

Sales: The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. Other sales include public street and highway lighting, other sales to public authorities and railways, and interdepartmental sales.

Sales for Resale: Energy supplied to other electric utilities, cooperatives, municipalities, and Federal and State electric agencies for resale to ultimate consumers.

Standard Industrial Classification (SIC): A set of codes developed by the Office of Management and Budget, which categorizes business into groups with similar economic activities.

Standby Facility: A facility that supports a utility system and is generally running under no-load. It is available to replace or supplement a facility normally in service.

Standby Service: Support service that is available, as needed, to supplement a consumer, a utility system, or to another utility if a schedule or an agreement authorizes the transaction. The service is not regularly used.

System (Electric): Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management, or operating supervision.

Total DSM Cost: Refers to the sum of total utility cost and nonutility cost.

Total DSM Programs: Refers to the total net effects of all the utility's DSM programs. For the purpose of this survey, it is the sum of the effects for Energy Efficiency, Direct Load Control, Interruptible Load, Other Load Management, Other DSM Programs, and Load Building. Net growth in energy or load effects should be reported as a negative number, shown with a minus sign.

Total Nonutility Cost: Refers to total cash expenditures incurred by consumers and trade allies that are associated with participation in a DSM program, but that are not reimbursed by the utility. The nonutility expenditures should include only those additional costs necessary to purchase or install an efficient measure relative to a less efficient one. Costs are to be reported in nominal dollars in the year in which they are incurred, regardless of when the actual effects occur. To the extent possible, provide the best estimate of nonutility costs if actual costs are unavailable.

Total Utility Cost: Refers to the sum of the total Direct and Indirect Utility Costs for the year. Utility costs should reflect the total cash expenditures for the year, reported in nominal dollars, that flowed out to support DSM programs. They should be reported in the year they are incurred, regardless of when the actual effects occur.

Transmission: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers, or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution

system lines to consumers, or is delivered to other electric systems.

Uniform System of Accounts: Prescribed financial rules and regulations established by the Federal Energy Regulatory Commission for utilities subject to its jurisdiction under the authority granted by the Federal Power Act.

Utility-Earned Incentives: Costs in the form of incentives paid to the utility for achievement in consumer participation in DSM programs. These financial incentives are intended to influence the utility's consideration of DSM as a resource option by addressing cost recovery, lost revenue, and profitability.

Voltage Reduction: Any intentional reduction of system voltage by 3 percent or greater for reasons of maintaining the continuity of service of the bulk electric power supply system.

Water Heating: Energy Efficiency program promotion to increase efficiency in water heating, including low-flow shower heads and water heater insulation wraps. Could be applicable to residential, commercial, or industrial consumer sectors.

Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor.

Watthour (Wh): An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

Wheeling Service: The movement of electricity from one system to another over transmission facilities of intervening systems. Wheeling service contracts can be established between two or more systems.

Wholesale Sales: Energy supplied to other electric utilities, cooperatives, municipalities, and Federal and State electric agencies for resale to ultimate consumers.

Appendix C

Abbreviations and Acronyms

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Abbreviations and Acronyms

CNEAF - Office of Coal, Nuclear, Electric and Alternate Fuels

DOE - Department of Energy

DSM - Demand-Side Management

EIA - Energy Information Administration

EPACT - Energy Policy Act of 1992

GWh - Gigawatthour

HVAC - Heating, Ventilation, and Air Conditioning

IRP - Integrated Resource Planning

KW - Kilowatt

kWh - Kilowatthour

MW - Megawatt

MWh - Megawatthour

NERC - North American Electric Reliability Council

The NERC regions are:

ASCC - Alaskan System Coordination Council

ECAR - East Central Area Reliability Coordination Agreement

ERCOT - Electric Reliability Council of Texas

MAIN - Mid-America Interconnected Network

MAAC - Mid-Atlantic Area Council

MAPP - Mid-Continent Area Power Pool

NPCC - Northeast Power Coordinating Council

SERC - Southeastern Electric Reliability Council

SPP - Southwest Power Pool

WSCC - Western Systems Coordinating Council

NTIS - National Technical Information Service

TOU - Time-of-Use

Energy Information Administration Consumption Surveys:

The Energy Information Administration (EIA) also conducts consumption surveys that provide detailed information on how different consumers use energy. In recent surveys, DSM data has been collected as part of the data collection for three EIA consumption surveys: the Residential Energy Consumption Survey, the Commercial Buildings Energy Consumption Survey, and the Manufacturing Energy Consumption Survey. The following provides a brief description of each of these surveys.

Residential Energy Consumption Survey (RECS): Since 1978, EIA has collected data from U.S. households about how they use energy and billing data from their energy suppliers about how much energy they use. In the ninth RECS undertaken in 1993, over 7,000 households were surveyed and the results are extrapolated to 97 million households. The triennial survey collects data on housing characteristics, energy consumption and expenditures, stock of energy-using appliances, and energy-related behavior.

Questions about household participation in DSM programs were asked in the 1990 and 1993 RECS. Data can be found in *Housing Characteristics 1990* (DOE/EIA-0314(90)), *Household Energy Consumption and Expenditures 1990* (DOE/EIA-0321(90)), and *Housing Characteristics 1993* (tables available in November 1994 and report available in spring 1995). The data show participation by type of DSM program in both surveys. Additionally, the 1993 survey shows household perceptions of the availability of DSM programs.

For further information concerning the RECS DSM data or the RECS in general, please contact Wendel Thompson, RECS Manager, at (202) 586-1119, FAX at (202) 586-0018, or Internet E-mail wthompson@eia.doe.gov.

Manufacturing Energy Consumption Survey (MECS): The MECS was first conducted for 1985 and presents data representing all but the smallest manufacturing establishments. It is a triennial survey that collects data on energy consumption and related issues in manufacturing establishments. The 1991 MECS presents separate estimates for all 20 major industrial groups from the manufacturing sector as defined by the Standard Industrial Classification (SIC) Codes. Within these major groups, separate estimates are presented for 42 industries and industry groups.

New to the 1991 version of the MECS are data on energy efficiency activities and DSM in particular. The data tables are available now in electronic form on EPUBS and in a forthcoming publication. The tables present participation by SIC Code, type of program, and whether electric utilities are involved. Due to the sample design, data must be presented in terms of energy consumption rather than counts of establishments. In future years, both types of measures are expected to be available.

For further information concerning DSM data or any aspect of the MECS, please contact Mark Shipper, MECS Survey Manager, at (202) 586-1136, FAX at (202) 586-0018, or Internet E-mail mshipper@eia.doe.gov.

Commercial Buildings Energy Consumption Survey (CBECS): Since 1979, EIA has collected data on the physical and operating characteristics that affect energy use in U.S. commercial buildings. Billing data containing energy consumption and expenditures are collected from the energy suppliers to these buildings. In the fifth CBECS undertaken in 1992, both the building respondents and the energy suppliers were asked extensive questions about the types of DSM programs that the buildings participated in, the sponsors of those programs, and the types of assistance that was provided through the DSM programs. DSM participation data as reported by the building owners, managers, and tenants can be found in *Commercial Buildings Characteristics 1992* (DOE/EIA-0246(92)).

For further information concerning the CBECS DSM data or the CBECS in general, please contact Martha Johnson, CBECS Manager, at (202) 586-1135, FAX at (202) 586-0018, or Internet E-mail mjohnson@eia.doe.gov.

A vertical decorative bar on the left side of the page contains several symbols: a gear, a musical note, the Greek letter Phi (Φ), a male symbol (♂), a paragraph symbol (§), the Greek letter Pi (π), a plus-minus symbol (±), a summation symbol (Σ), and a smiley face (😊).

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