Madison Gas and Electric Company

MGE

Energizing Our Expanding Economy

1990 Annual Report

mge

Business Description

Madison Gas and Electric Company (MGE) is a public utility located in Madison, Wis. It is engaged in generating and transmitting electric energy and distributing it to 112,000 customers throughout 250 square miles in Dane County. MGE also distributes and transports natural gas to 87,000 customers throughout 962 square miles in Dane, Columbia and Iowa counties.

Printed on a Recycled Paper

Contents

Year at a Glance

	1990	1989	Percent increase (decrease) 1990-1989
Earnings per common share	$ 3.06	$ 2.92	4.8%
Cash dividends paid per common share	$ 2.58	$ 2.52	2.4
Market value per common share — year end	$33.50	$35.50	(5.6)
Book value per common share — year end	$23.90	$23.18	3.1
Average number of common shares outstanding	7,020,157	6,860,067	2.3
(Thousands of Dollars)			
Operating revenues	$220,568	$217,588	1.4
Operating expenses	$185,770	$183,982	1.0
Net operating income	$ 34,798	$ 33,606	3.5
Earnings on common stock	$ 21,488	$ 20,038	7.2
Electric sales to consumers (mwh)	2,267,000	2,202,000	3.0
Average use per residential customer (kwh)	6,471	6,474	(0.1)
Electric system one–hour net peak demand (kw)	519,000	513,000	1.2
Electric customers in service — year end	112,374	111,054	1.2
Cooling degree–days (Normal = 467)	629	524	20.0
Gas sales to consumers and transported (therms)	155,794,000	171,716,000	(9.3)
Average use per residential heating customer (therms)	1,006	1,162	(13.4)
Gas system peak day (therms)	1,330,000	1,475,000	(9.8)
Gas customers in service — year end	87,331	84,556	3.3
Heating degree–days (Normal = 7,642)	6,688	7,784	(14.1)
(Thousands of Dollars)			
Investment in plant	$613,809	$594,138	3.3
Total capitalization (including interim loans)	$318,193	$336,095	(5.3)
Employees — year end	770	812	(5.2)

MGE

To Our Shareholders

In the past, we have commented on the mutually beneficial partnership between MGE and the communities we serve. We are pleased to report that your company and the communities in our area prospered in 1990 despite uncertainties about world affairs and the nation's economy.

Earnings Rise Earnings on MGE common stock were $3.06 per share in 1990, an increase of nearly 5% over the $2.92 earned in 1989. The 1990 earnings are a company high, surpassing the $3.04 per share earned in 1985.

The higher earnings were achieved because of continuing growth in the number of customers we serve, increased retail electricity sales and successful efforts to control operating expenses.

Dividend Increased Your board of directors increased the quarterly dividend on your common stock by 1 cent per share in September, raising the annual dividend rate to $2.60. This was the 10th consecutive September in which your dividend has been increased.

At the stock price of $33.50 on Dec. 31, 1990, the current dividend produces a 7.8% yield.

Financial Condition Romains Strong The following indicators show our financial strength:

- *Highly rated securities* – Our bonds and commercial paper continue to be rated highly, exceeding utility industry averages. There were no changes in the ratings in 1990.
- *Internal funding for construction* – We project 1990-92 construction expenditures below those in 1987-89. In 1990, construction expenditures were $23 million, down from the $34 million average of the previous three years. All of the 1990 construction expenditures were generated internally.

  Construction expenditures for 1991 and 1992 are expected to be slightly higher than the 1990 level. We have been able to control these expenditures while maintaining our historically high levels of electric and gas system reliability and safety.

  Significant economic growth in our service area in recent years has meant load growth for MGE. Economists predict that growth in our service area will be above average for Midwestern utilities. To serve that growth, we are proposing to install two natural gas-fired combustion turbines to provide new electric generation peaking capacity in 1996. Despite the need for new peaking capacity, we are committed to holding capital expenditures to a level that can be substantially generated internally.

  Our construction program will more than adequately meet the needs of all customers as our economy expands.
- *Capitalization structure* – Our goal is to maintain about 50% to 55% equity and 45% to 50% debt. On Dec. 31, 1990, equity made up 55% and debt was 45%.
- *Stock performance* – The consistently good performance of our stock the past 18 months is another positive indication of MGE's strength.

Frank C. Vondrasek (seated), Donald J. Helfrecht

Rates Frozen In accord with established procedures of the Public Service Commission of Wisconsin (PSCW), MGE files for rate adjustments each fall. The Commission issues a rate order in late spring, and the new rates become effective in June for one year.

MGE's current gas and electric rates have been in effect since June 19, 1990. The PSCW authorized a $1.9 million, or 1.3%, increase in annual electric revenues over those authorized in June 1989. Annual natural gas revenues were decreased $0.9 million, or 1.1%. The amounts authorized are very close to our Feb. 19, 1990, revised request for a $1.1 million net gas and electric revenue increase.

The PSCW authorized a 13.20% return on common equity, which was nearly equal to the 13.25% we sought in our revised request.

Because our cost-containment efforts have more than offset the projected 5% inflation rate, we advised the PSCW that we would freeze electric and gas rates at current levels at least through May 31, 1992. The PSCW will rule on this request after reviewing our financial records.

Clean Air Act Changes Amendments to the U.S. Clean Air Act became law in November. They impose stricter sulfur dioxide and nitrogen oxide emission controls on fossil-fueled power plants, industrial plants and vehicles to limit so-called acid rain. MGE's coal-burning plants are subject to the law, which will go into effect in two phases, in 1995 and 2000.

The first phase will have little effect on MGE because the company's compliance with Wisconsin's acid rain law, effective in 1993, also meets the requirements of the federal law.

The second phase will affect all fossil-fueled utility plants because of the emissions caps imposed, raising the cost of producing electricity. We are investigating a number of options for meeting the standards, but no decisions have yet been made.

Cost Containment Succeeding We have taken many steps to control costs since initiating a new cost-containment program in 1989. These efforts are necessary for us to meet our long-term goal of maintaining competitive electric and gas rates while continuing to provide high-quality services to our customers and attractive returns for our investors. We are succeeding, as evidenced by our rate freeze request.

Cost-containment measures include:

- Purchasing some electric power through contracts with two non-adjacent Midwestern utilities, thereby delaying investment in new power plants;
- Imposing a hiring freeze and reallocating existing positions and responsibilities;
- Reducing general operating expenses;
- Entering into an inter-utility agreement for electric transmission planning;
- Lowering fuel costs at company-owned electric generating facilities; and
- Using more options in purchasing natural gas at competitive prices and storing gas underground during off-peak periods.

We initiated a new comprehensive corporate performance and cost management program in September and continue to review all aspects of operations.

Our dedicated work force deserves much of the credit for achieving our cost-containment goals. They are responding to the challenge.

Company and Area Growing MGE continues to grow at a steady, manageable pace. Increases were achieved in revenues and electricity sales, as well as in the number of customers served, in 1990.

1990 census reports show that Dane County, which makes up most of our service area, led all other counties in the state in population gained since 1980, adding 43,540 people. Included in the total is the city of Madison's 20,646 increase, which was the highest for any community in the state.

We set a new one-hour electric peak demand of 519,000 kw on Aug. 27, 1990, exceeding the previous high of 517,000 kw in 1988.

1990 was also a prosperous year for Wisconsin as its strong economy outperformed neighboring states and national averages. Dane County leads the state in economic growth. This economic vitality is occurring throughout our service area, not just in the larger communities we serve. As a result, our economy is becoming regional in nature, strengthening our position for the future because of increased diversity.

MGE is well positioned to serve the growth of our service territory. We have played a major role in stimulating and planning for that growth. Many of the activities responsible for these significant results and future plans are described on the following pages.

The economic stability of our area, the strength of your company, prudent policies and practices, and dedicated employees point to a prosperous future for MGE.

Donald J. Helfrecht

Donald J. Helfrecht
Chairman and Chief Executive Officer

F C Vondrasek

Frank C. Vondrasek
President and Chief Operating Officer

Feb. 22, 1991

MGE

Energizing Our Expanding Economy

Madison Gas and Electric Company's efforts to stimulate and support economic growth in its service area continue to produce positive results for the area and the company despite a national economic slowdown. The economy in MGE's service area, which includes most of Dane County, continues to grow steadily, leading Wisconsin's economic growth and outperforming the national economy. The growth is diversified, both in nature and geographically throughout Dane County, further strengthening the economic base for the future.

At both state and local levels, growth is evident. According to 1990 census data, the state population has grown 4% (to 4.9 million) since 1980, led by Dane County, which grew by 13.5% (to 367,085) over the same period.

Much of the population growth can be directly attributed to the healthy local economy. More than 220,000 new jobs were created statewide during the past four years alone. Of that number, more than 30,000 were created in Dane County.

The county leads the state in full employment, with an average unemployment rate during 1990 of only 2.5%, well below the national average of 5.9%. The state averaged 4.3% unemployment for 1990 and, in September, recorded its lowest September unemployment levels in 20 years – 3.8%.

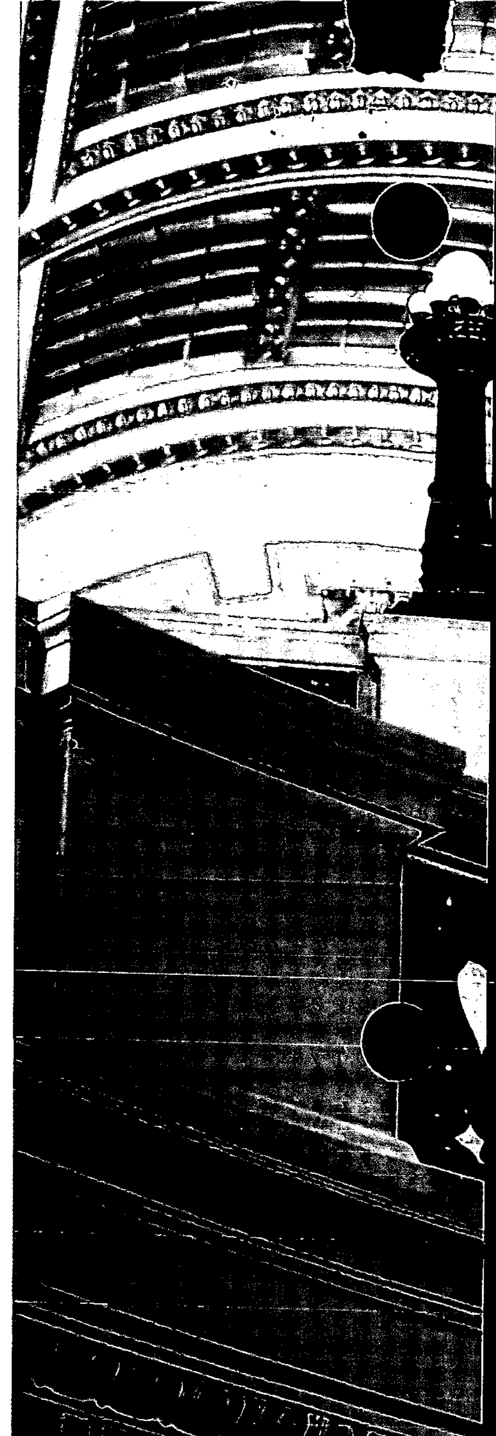
Job growth in the area served by MGE is an indicator of the trend that has seen Wisconsin rise from 17th to third between 1987 and 1989 as a state favorable for manufacturing (according to the *Grant Thornton Study of Manufacturing Climates*). The state's manufacturing growth rate has been three times the national average since 1987 and the highest in the Midwest.

Likewise in Dane County, manufacturing has been the fastest-growing business sector, with a 43% increase in jobs since 1981.

New business incorporations increased 10.2% statewide in 1989 while national figures showed a decline. Dane County continues to be a leader in the state for new business startups.

MGE stimulates this growth and energizes the expanding regional economy by:

- Actively fostering entrepreneurial development as well as encouraging well-established national and multi-national businesses to locate and increase investment in our service territory;
- Expanding energy resource options to guarantee an ample supply of reliable, competitively priced energy while controlling the costs of providing energy and related services; and
- Helping both residential and business customers control their energy costs through education and incentives to use energy-efficient products and services.



Energizing Economic Growth

MGE has become recognized as a primary resource for up-to-date economic development data and analyses relative to its service area. Tracking such data helps MGE stay ahead in facilities and load planning. This also helps to accurately focus the company's efforts on attracting a diversified mix of business development in the service area.

During 1990, construction activity reached record levels within MGE's gas and electric service areas. More than $239 million in commercial construction was begun during the year, including:

- The new American Family Insurance national headquarters, $80 million, 800,000-square-foot headquarters for 3,000 employees, in our gas service area;
- A $25 million, 130,000-square-foot addition to St. Marys Hospital; and

Governor Tommy Thompson (right), Wisconsin's chief entrepreneur, meets at the State Capitol with MGE Chairman and CEO Donald Helfrecht, a 1990 Wisconsin "encourager of entrepreneurship."

- A $17 million, 200,000-square-foot World Trade Center in Middleton, currently 90% leased.

Since 1987, more than $1 billion in commercial development has occurred in the MGE service territories. Commercial and indus-ʻal construction plans in the ea indicate that this healthy trend will continue, despite contrary trends elsewhere around the country. MGE's largest customer, the University of Wisconsin, for example, has proposed $225 million in building projects for Madison campus research facilities. Pending state approval, some of this construction could begin during 1991 and continue over the next several years.

Plans also are in motion to continue expansion at the UW Research Park, within five miles of the main campus. With 18 new tenants leasing the remaining 160,000 square feet of available Research Park facilities in 1990, plans are currently under way to build four more buildings. The planned construction would provide an additional 60,000 square feet for future tenants.

By locating the MGE Innovation Center at the Research Park, MGE contributed to the success of this development. Opened in 1989 as an incubator for promising technology-based firms, the MGE Innovation Center achieved full occupancy in 1990. MGE helps enhance the growth of the Center's new businesses by providing modern facilities at below-market rents and by providing shared office equipment and support services. Current tenants are:

Nemapharm Inc. – develops and applies innovative drug - discovery technologies for both agricultural and pharmaceutical applications.

Novagen – produces specialized gene libraries for research. It has more than doubled in size during its first year and is the Innovation Center's largest tenant.

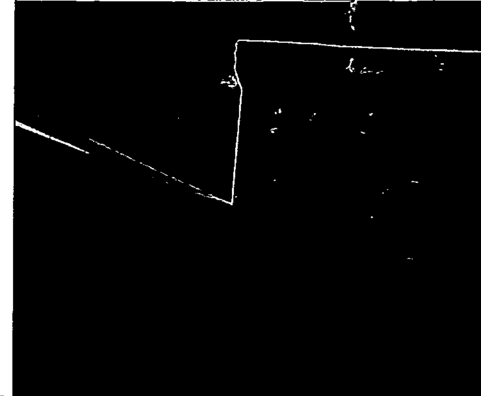
H.J. Steudel and Associates Inc. – provides high-level management and software solutions to industries involved with world-class manufacturing.

Tetrionics Inc. – operates an organic-synthetic laboratory specializing in production of experimental pharmaceuticals.

Wisconsin for Research – promotes technology transfer and economic development, including incubators throughout the state, as a private, non-profit organization.

The Wisconsin Center for Demand-Side Research – encourages more efficient use of energy resources in the state. It researches public policy issues, planning and forecasting practices, energy pricing, new technologies and marketing issues. Kent Barlow, MGE senior vice president - electric systems, is its treasurer. It is a non-profit, cooperative effort of the UW-Madison, the Public Service Commission of Wisconsin, MGE and four other Wisconsin utilities.

Venture Investors of Wisconsin (VIW) – provides day-to-day management of the Center. VIW specializes in providing seed and venture capital financing to fledgling Wisconsin growth companies.



Randy Popp (left), MGE commercial/industrial services marketing engineer; Sub-Zero's Fred Ingersoll, engineering manager, and Walter Wiest, secretary-treasurer.

During 1990, VIW strengthened its position as a premiere venture capitalist in the state by merging with a Milwaukee investment group. MGE is a charter investor in VIW and continues to support its efforts. G. Howard Phipps, MGE senior vice president - finance, serves on the VIW board.

Including the MGE Innovation Center, the UW Research Park is now home to 34 companies and more than 800 employees.

MGE's support of entrepreneurial development received special recognition in 1990. Donald Helfrecht, MGE chairman and CEO, was named the state's 1990 Encourager of Entrepreneurship by *Inc.* magazine and Ernst and Young in their annual Entrepreneur of the Year competition. According to the judges, MGE's support of area entrepreneurs has been demonstrated through its investments, direct assistance, public-awareness activities and targeted educational/information materials.

MGE has helped promote the technology-based growth in its service territory from 125 firms in 1980 to almost 300 in 1990, which represents combined annual revenues in excess of $1 billion

When Sub-Zero Freezer Co. undertook a $1.2 million expansion at its Madison manufacturing and office facility, MGE helped the company increase the energy efficiency of its equipment and operations. Sub-Zero upgraded its lighting and mechanical control systems and installed a computer-based energy management system.

and employment of more than 11,000 people.

In collaboration with the city of Madison, the company has been tracking and promoting this growth through *The Greater Madison Area High Tech Companies Directory*, now in its fourth year of publication. The growing value and visibility of the directory are reflected by annually increasing requests for copies from organizations worldwide considering relocation or expansion.

As entrepreneurial high-tech growth continues, the benefits of doing business in Dane County are becoming increasingly evident to larger corporations as well. Furthermore, as more areas of the nation experience an economic downturn, businesses are seeking pockets of stability and finding one such region to be Dane County.

An example is Eppendorf North America Inc., a growing biotechnology equipment manufacturer whose parent company is based in Germany. Contact with MGE and the university helped the company change its plans to move to California. Instead, the firm has relocated to Madison, and moved employees from its Fremont, Calif., subsidiary to a 10,000-square-foot facility in the UW Research Park.

Other major companies that have either moved into Dane County or increased their presence here recently include ConAgra, Lubrizol, W.R. Grace, Philip Morris, Corning and Software Publishing Corporation.

MGE's support of economic development extends to working with leaders in all the communities it serves. This includes developing economic profiles, publishing community resource guides and helping with other community development and chamber of commerce programs.

MGE, for example, played a key role in helping target downtown development initiatives for Lodi, a community MGE serves on the Dane/Columbia County border. The MGE Economic Development Unit worked with the Lodi Chamber of Commerce and other village leaders to develop and analyze a survey of residents' shopping patterns, their perceptions of Lodi goods and services, and their attitudes about the city's downtown in general. After the results were tabulated, MGE developed and published an assessment to help the community direct future downtown development.

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Managing Supply and Cost

As economic and population growth continues throughout the territory served by MGE, the company is meeting the resulting increased demand for energy through aggressive market strategies and resource management.

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M GE recorded a new peak for one- our electric demand of 519,00 kw on Aug. 27, 1990. This su assed the previous peak of 517,0 0 kw on Aug. 16, 1988.

F r the entire year, retail sales o lectricity reached a new high of ore than 2,200 megawatt-hours. To help meet this demand cost-effectively, MGE broadened the approach it pursued during 1989, purchasing power from two utilities not directly connected to it. These contracts give MGE direct access to additional sources of economic power. Purchased power supplied 10% of the company's electric power needs during 1990.

Overall fuel capacity for electric generation remains about

Lodi is one of the many communities MGE serves where the company is actively helping foster economic growth. MGE worked with Lodi community leaders in developing and analyzing local consumer patterns and planning downtown development. Recent downtown development included the new State Bank of Lodi.

65% coal-fired, 15% nuclear and 20% oil- or gas-fueled.

To achieve greater generating capacity for the future, the company has proposed adding two 36,000 kw gas-fired combustion turbines by 1996.

Additional measures were taken to improve the efficiency of electric services and facilities. MGE negotiated an agreement in 1990 with another utility to coordinate construction of new electric transmission facilities. MGE will realize a benefit of almost $10 million. The two companies will share the cost of facilities owned by MGE but jointly used during recent years. They also will work together to plan and construct new facilities of mutual benefit. The agreement does not change customer service areas, but will enhance the cost-effectiveness of the transmission facility upgrades required to serve continued growth.

To maintain its historically high levels of reliability and service to its growing customer base, MGE installed a computerized service-restoration system. The system significantly enhances MGE's ability to respond to outages and restore service. Developed by MGE's Distribution Planning and Load Management Dept., the system has been in operation since January 1990.

Construction began on a direct interconnection with Northern Natural Gas Co. The new pipeline will give MGE competitive options for pipeline transportation as well as additional flexibility to access gas-producing areas of the U.S. and Canada.

To ensure adequate supplies of competitively priced energy in advance of need, MGE increased its purchase of firm-storage gas on the open market. Buying gas at summer prices to meet anticipated winter demand, the company achieved an estimated annual saving of more than $2 million. Although such savings are passed on to customers and do not directly affect earnings, they help attract more customers and generate income through volume sales. This helps MGE continue to provide reliable, competitive services as its base load increases, ensuring a reasonable return for the company and its shareholders.

During the last half of 1990, MGE received a record number of requests for natural gas conversion analyses. Inquiries were more than double those of the same period in 1989, largely in response to sharp increases in the cost of oil and propane after the Iraqi invasion of Kuwait.

Prospects for additional gas sales, particularly in multi-tenant commercial construction and multi-family units, have improved dramatically as a result of a new, cost-competitive gas-piping technology that MGE is adopting. The reduced diameter and flexibility of the new piping reduces material and installation costs while maintaining safety. The lines also allow gas piping to be more easily installed through a wider range of building designs.

Mike Croft (left), MGE market services representative; Scott Fergen, Sylvania U.S. Lighting Division sales representative; and Wayne Knopf, vice president - sales with Culver Electric Supply, Madison.

Promoting Energy Efficiency

As MGE gains electric and gas base load through area growth, the company continues to promote cost-effective energy conservation and the use of energy-efficient electric and gas products. Successful marketing of these products helps reduce peak load and better balances use of MGE's energy resources.

Working with MGE customers to encourage conservation and increased use of energy-efficient products, the company has thus far achieved 9 mw of added savings compared with anticipated energy demand during the last three years.

An MGE program launched in September offering incentives and rebates on efficient electric lighting products resulted in more than 16,000 responses from business and residential customers. Overall customer response to MGE's 1990 appliance rebate program also exceeded targeted goals for helping reduce electric

To encourage residential customers to improve lighting efficiency, MGE works with manufacturers and area retailers to promote high-efficiency lighting products. Power Plus coupon booklets and rebate incentives to reduce the initial costs of high-efficiency products are offered through company marketing and advertising media and at several area retail locations.

load from air conditioners, water heaters and refrigerators. These programs promoted the efficient use of electricity while curbing demand among commercial, industrial and residential customers by more than 3 mw during 1990.

A pilot conservation competition ended in 1990 with MGE winning over the competing contractor in the rental sector. Results were based on the amount of conservation value realized by MGE in relation to the money spent to achieve it. MGE earned a bonus of $84,000 by attaining $2.3 million in conservation value to the competitor's $760,000.

Previously, MGE won the small commercial/industrial sector of the competition and made a strong showing in the large commercial/industrial sector.

To further promote energy conservation, MGE co-hosted the 1990 Energy Expo. The Expo targeted commercial and industrial electric and natural gas customers who are seeking strategies for more efficient and appropriate use of energy.

The Expo also showcased energy solutions cooperatively developed by MGE and five customers: the city of Madison

Transportation Department, UW Provisions Co., Hazleton Laboratories, St. Marys Hospital and CUNA Mutual Insurance Group. As a result of the solutions derived from MGE technical support and first-cost incentives, the five customers expect to achieve a combined savings in energy costs of more than $150,000 annually. In turn, these measures will further reduce demand for peak electric load from the commercial/industrial base.

In addition to gas conversions resulting from events in the Persian Gulf, MGE attained added gas load through marketing efforts with area businesses. Early in the year, for example, a Blue Mounds mobile home park converted from propane to natural gas, as did the school district in nearby Barneveld. Combined, these conversions added more than 100,000 therms to the annual load.

Another significant gain in load came when MGE helped Peavey Grain Co., a commercial grain-drying operation of ConAgra, decide to install a high-efficiency gas dryer at its newest grain-drying facility near Arlington. Natural gas conversions during 1990 added more than 266,000 therms of off-peak load during the corn-drying season between mid-September and the end of November. In all, crop-drying operations in the MGE service area contributed 1.3 million therms to the company's gas load during 1990.

Energizing Future Growth

MGE employees continue to serve on public and private committees working to energize the economy and enhance the quality of life in the area. For example, Chairman and CEO Donald Helfrecht serves

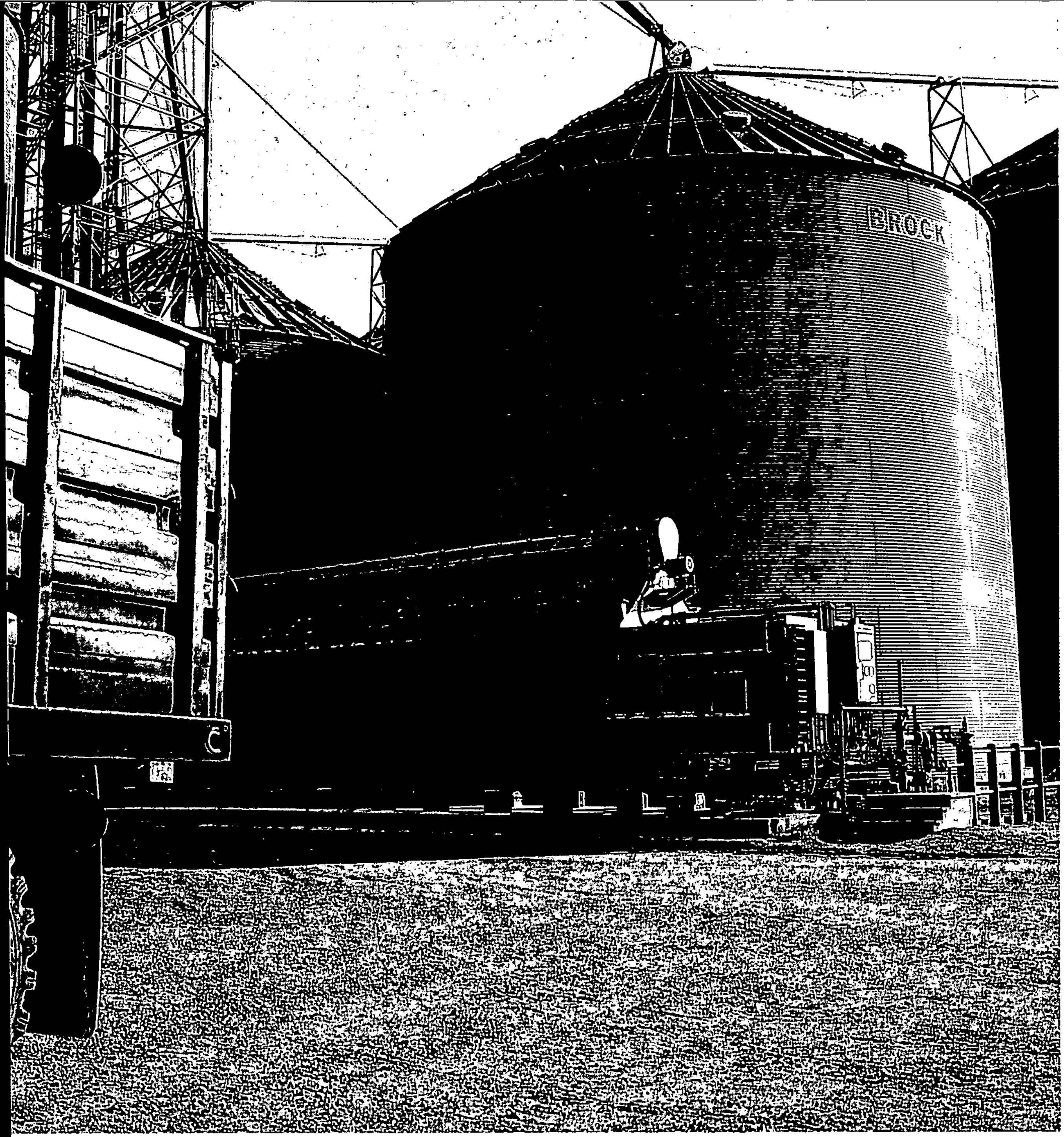
Larry Kippley, Peavey Grain Co., and Kendall Kahl (right), MGE agricultural services representative.

on the board of directors of the newly formed Future Madison Corporation. This non-profit organization will serve as a catalyst to provide support for significant projects in the community.

Helfrecht also was chosen by Madison Mayor Paul Soglin to serve on the Madison Area Convention Center Commission. This commission will study a proposed convention center based on a design by Wisconsin architect Frank Lloyd Wright. MGE Director Fred Mohs also was named to the Commission.

Several other MGE employees serve on area chambers of commerce, plan commissions, and other civic and community development organizations.

MGE programs also earned national recognition. The company's Resource Assistance Program (RAP) won second-place honors in the Community Service/Public Responsibility category of an international competition, the 1990 Society of Consumer Affairs Professionals in Business annual awards. RAP works with customers to prevent emergency or crisis situations, removes communications barriers between customers and the company, and improves the ability of customers to make



Peavey Grain Co. significantly reduced its energy costs when MGE helped the company decide to convert its Arlington grain-drying operation from propane to natural gas. The 1990 conversion also added more than 137,000 therms to MGE's off-peak load during the fall grain-drying months.

their energy payments.

To help develop a quality work force able to meet the challenges of tomorrow's competitive economy, MGE presented more than $72,000 in scholarships to 33 area university students in 1990. Thirty of the awards were part of the company's Felber Scholarship program, established by the late Edward Felber, former MGE chairman, and his wife, Hazel. Children of MGE employees and retirees are eligible. The remaining scholarships provide full tuitions to minority students who reside in MGE's service territory.

During the past year, MGE also served as host to two Soviet energy planners, who came to survey energy conservation measures being implemented in the U.S.

By applying its expertise in energy services to the area it serves, MGE continues to help energize its expanding economy. The company will continue its role in helping shape this growth while aggressively and effectively pursuing the many opportunities such growth provides. As this growth continues, it guarantees that MGE, too, will profit from the dynamic and diversified economy it serves – ensuring its shareholders a continued fair return on their investment.

Responsibility for Financial Statements

The management of Madison Gas and Electric Company is responsible for the preparation and presentation of the financial information in this Annual Report. The following financial statements have been prepared in accordance with generally accepted accounting principles consistently applied and reflect management's best estimates and informed judgments as required.

To fulfill these responsibilities, management has developed and maintains a comprehensive system of internal operating, accounting, and financial controls. These controls provide reasonable assurance that the Company's assets are safeguarded, transactions are properly recorded, and the resulting financial statements are reliable. An internal audit function assists management in monitoring the effectiveness of the controls.

The Independent Auditors' Report on the financial statements by Arthur Andersen & Co. appears on the next page. The responsibility of the independent auditors is limited to the audit of the financial statements presented and the expression of an opinion as to their fairness.

The Board of Directors maintains oversight of the Company's financial situation through its monthly review of operations and financial condition and its selection of the independent auditors. The Audit Committee, comprised of all Board members who are not employees or officers of the Company, also meets periodically with the independent auditors and the Company's internal audit staff. The auditors have complete access to and meet with the Audit Committee, without management representatives present, to review accounting, auditing, and financial matters. Pertinent items discussed at the meetings are reviewed with the full Board of Directors.

Donald J. Helfrecht

Donald J. Helfrecht
Chairman and Chief Executive Officer

D Howard Phipps

G. Howard Phipps
Senior Vice President – Finance

Management's Discussion and Analysis of Financial Condition and Operations

Liquidity and Capital Resources The Company's liquidity is primarily affected by the requirements of its ongoing construction program. During 1990, over 125 percent of the Company's construction expenditures were provided for by internally generated cash. Construction expenditures declined $7.5 million in 1990 as compared to 1989, while cash generated internally rose $2.9 million. It is anticipated that construction expenditures (including nuclear fuel) will average $25 million over the next three years, with internal generation expected to approximate those expenditures.

The current financial statements report operating results in terms of historic cost. Even though the statements provide a reasonable, objective, quantifiable statement of financial results, they do not evaluate the impact of inflation. For ratemaking purposes, projected normal operating costs include impacts of inflation and are recoverable in revenues. However, electric and gas utilities, in general, are adversely impacted by inflation because depreciation of utility plant is limited to the recovery of historical costs. Thus, cash flows from the recovery of existing utility plant may, to a certain extent, not be adequate to provide replacement of plant investment.

At December 31, 1990, bank lines of credit available to the Company were $20 million, a reduction from the $30 million available at December 31, 1989. The Company was able to reduce the lines because of the reduction in short-term debt resulting mainly from the sale of $15 million of accounts receivable

Independent Auditors' Report

To the Shareholders and Board of Directors,
Madison Gas and Electric Company:

We have audited the accompanying consolidated balance sheets and statements of capitalization of MADISON GAS AND ELECTRIC COMPANY (a Wisconsin corporation) and subsidiaries as of December 31, 1990 and 1989, and the related consolidated statements of income, retained income, and cash flows for each of the three years in the period ended December 31, 1990. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Madison Gas and Electric Company and subsidiaries as of December 31, 1990 and 1989, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1990, in conformity with generally accepted accounting principles.

ARTHUR ANDERSEN & CO.

Chicago, Illinois
February 8, 1991

(see Note 1.j.). The bank lines are generally used to support commercial paper issued, which represents a primary source of short-term financing. The Company's dealer-issued commercial paper carries the highest ratings of Duff and Phelps, Inc., Moody's Investors Service, Inc., and Standard & Poor's Corporation.

The Company believes that trust indenture restrictions will not prevent the issuance of additional long-term debt in the foreseeable future. The Company's bonds are rated AA- by Duff and Phelps and by Standard & Poor's, and Aa2 by Moody's.

Capitalization ratios are shown at the bottom of the Summary of Selected Financial Data on page 27. In December, 1990, MGE sold $15 million of its accounts receivables, as previously mentioned, to decrease short-term debt and to achieve and maintain the Company's long-term goal of a common equity level of 50 to 55 percent. The Automatic Dividend Reinvestment and Stock Purchase Plan also helps achieve this goal. The Company has the option to issue new shares of common stock or purchase the shares on the open market. In March, 1991, MGE plans to start purchasing common shares on the open market. The Company is able to do this because of the sale of accounts receivable, as mentioned, and because the Company's internally generated funds are projected to equal construction expenditures.

Results of Operations

Electric Revenues Electric retail sales for 1990 rose 3.0 percent over 1989. The increase in 1990 sales is mainly due to customer growth and a warmer summer as compared to 1989. On August 27, 1990, demand for electricity by our customers during a one-hour period reached an all-time peak of 519,000 kw. The previous record peak was 517,000 kw in 1988. Cooling degree days in 1990 (as measured by the number of degrees the mean daily temperature is above 65 degrees Fahrenheit) were 20 percent higher than in 1989.

Total electric revenues increased 6.5 percent in 1990 as compared to 1989. The increase in electric revenues can be attributed to greater sales and an increase in electric rates of 5.7 percent granted by the Public Service Commission of Wisconsin (PSCW) in June, 1989, thus in effect for all of 1990. Also, in June, 1990, the PSCW granted a 1.3 percent increase in electric rates.

In 1989, electric retail sales were up 0.5 percent from 1988 while total electric revenues were up over 3 percent for the same time period.

Gas Revenues Changes in gas sold, transported, and delivered, as compared to the previous year, were:

	Retail Gas Sales	Gas Transported	Total Gas Delivered
	Increase (Decrease)		
1990			
Million therms . . .	(16.4)	0.5	(15.9)
Percentage	(10)%	8%	(9)%
1989			
Million therms . . .	0.9	1.9	2.8
Percentage	1%	48%	2%
1988			
Million therms . . .	32.6	(15.1)	17.5
Percentage	25%	(79)%	12%

The 1990 decrease in gas delivered was due to the very warm weather experienced during the first quarter and a relatively normal December as compared to the very cold December, 1989. Heating degree days (as measured by the number of degrees the mean daily temperature is below 65 degrees Fahrenheit) decreased 14.1 percent in 1990 from 1989. The warmer-than-normal first quarter explains why gas revenues decreased by 6.5 percent for 1990. Also, in June, 1990, the PSCW lowered retail gas rates by about 1 percent.

Fuel and Gas Costs Electric fuel and purchased power expenses, in total, decreased over 2 percent in 1990 compared to 1989, despite a rise in electric sales of 3 percent. The major contributing factor was a decrease in fuel costs for Columbia (see Note 1.e.).

Natural gas costs decreased 6.4 percent in 1990 compared to 1989, virtually the same as the decline in gas revenues. In 1990 the Company again purchased gas in the summer months when prices are generally lower. The gas was placed in storage until used during the 1990-91 heating season. The savings of storing gas purchased at lower prices is passed along to the Company's customers.

Other Operatiens and Maintenance Expenses The combined costs of other operations and maintenance decreased in 1990 as compared to 1989. This decrease, despite continuing inflation and customer growth, is the direct result of the Company's continuing efforts to control costs.

Other Items A lower level of commercial paper outstanding throughout 1990 contributed to a decrease in other interest expense for the year (see Note 2.d.).

The allowance for funds used during construction has substantially declined in 1990. This is because MGE's lowest level of construction since 1983 reduced the average construction work in progress during 1990.

Consolidated Statements of Income

For the years ended December 31	1990	1989	1988
(Thousands of Dollars, Except Per-Share Amounts)			
Operating Revenues (Notes 1b and 4)			
Electric	$140,493	$131,961	$128,079
Gas (Note 1h)	80,075	85,627	86,244
Total Operating Revenues	220,568	217,588	214,323
Operating Expenses			
Fuel used for electric generation (Note 1d)	29,652	29,126	30,175
Purchased power	4,091	5,608	4,437
Natural gas purchased for resale (Note 1h)	49,700	53,073	56,465
Other operations	48,909	47,934	45,666
Maintenance	11,538	12,588	10,954
Straight-line depreciation and amortization (Note 1f)	22,098	19,878	18,231
Income tax items (Note 1g)			
Deferred taxes	2,528	2,720	3,629
Current federal income	8,444	4,998	5,424
Amortization of investment tax credits	(882)	(924)	(1,019)
Current state income	2,118	1,674	1,755
Other general taxes	7,574	7,307	7,275
Total Operating Expenses	185,770	183,982	182,992
Net Operating Income	34,798	33,606	31,331
Allowance for funds used during construction – equity funds (Note 1c)	122	731	1,218
Other income, net	1,307	812	446
Income Before Interest Expense	36,227	35,149	32,995
Interest Expense			
Interest on long-term debt	12,688	12,757	12,312
Other interest	1,593	2,280	934
Allowance for funds used during construction – borrowed funds (Note 1c)	(83)	(484)	(789)
Net Interest Expense	14,198	14,553	12,457
Net Income	22,029	20,596	20,538
Preferred stock cash dividend requirements	541	558	576
Earnings on Common Stock	$ 21,488	$ 20,038	$ 19,962
Earnings Per Share of Common Stock			
(Average shares outstanding – 7,020,157, 6,860,067, and 6,687,741, respectively)	$3.06	$2.92	$2.98

The accompanying notes are an integral part of the above statements.

Consolidated Balance Sheets

At December 31	1990	1989
(Thousands of Dollars)		
Assets		
Utility Plant, at original cost (Note 1c)		
In service–Electric (Note 1e)	$443,792	$428,105
Gas	149,486	143,880
Gross Plant in Service	593,278	571,985
Less–Accumulated provision for depreciation (Note 1f)	(245,427)	(226,015)
Net Plant in Service	347,851	345,970
Construction work in progress	1,990	5,618
Nuclear decommissioning fund (Note 1f)	18,541	16,535
Nuclear fuel, net (Note 1d)	9,351	11,309
Total Utility Plant	377,733	379,432
Other Property and Investments	5,290	5,559
Current Assets		
Cash	1,562	1,429
Deposits for jointly owned electric power production facilities	2,523	2,535
Accounts receivable, less reserves of $625 and $679 (Note 1j)	4,861	22,972
Unbilled revenue (Note 1b)	11,678	12,447
Materials and supplies, at average cost	9,357	9,174
Fossil fuel, at average cost	8,145	5,047
Stored natural gas, at average cost	3,084	3,532
Prepaid taxes	5,168	5,177
Other prepayments	1,140	1,371
Total Current Assets	47,518	63,684
Oeferred Charges (Note 1g)	19,793	19,333
Total Assets	$450,334	$468,008
Capitalization and Liabilities		
Capitalization (see statement on next page) (Note 2)	$311,981	$307,995
Current Liabilities		
Preferred stock sinking fund requirements (Note 2b)	100	100
Maturity of 4¾% First Mortgage Bonds, 1991 Series (Note 2c)	4,012	—
Interim loans – commercial paper outstanding (Note 2d)	2,100	28,000
Accounts payable	17,765	20,069
Accrued taxes	5,681	4,977
Other (Note 1h)	10,610	13,845
Total Current Liabilities	40,268	66,991
Other Credits		
Accumulated deferred income taxes (Note 1g)	75,091	72,649
Investment tax credit deferred (Note 1g)	16,506	17,395
Other	6,488	2,978
Total Other Credits	98,085	93,022
Commitments and Contingencies (Note 5)		
Total Capitalization and Liabilities	$450,334	$468,008

The accompanying notes are an integral part of the above balance sheets.

Consolidated Statements of Capitalization

At December 31	1990	1989
(Thousands of Dollars)		
Common Shareholders' Equity (Note 2a)		
Common stock — Par value $8 per share		
Authorized 14,000,000 shares		
Outstanding 7,120,191 and 6,943,403 shares, respectively	$ 56,962	$ 55,547
Amount received in excess of par value	54,612	50,196
Retained income	58,594	55,210
Total Common Shareholders' Equity	170,168	160,953
Redeemahle Preferred Stock, cumulative, $25 par value, authorized 1,223,000 and 1,231,000 shares, respectively (Note 2b)		
Series E, 8.70%, 244,000 and 252,000 shares outstanding, respectively, less current sinking fund requirements of $100	6,000	6,200
First Mortgage Bonds (Note 2c)		
4¾%, 1991 Series	4,012	4,012
9.65%, 1992 Series	10,000	10,000
5.45%, 1996 Series	8,000	8,000
8%, 1999 Series	9,449	9,987
7¾%, 2001 Series	11,807	11,971
9¾%, 2004 Series	17,265	17,379
9¾%, 2005 Series	22,199	22,314
6½%, 2006 Series, Pollution Control Revenue Bonds, principal amount $8,780, less construction fund of $1,368 and $1,266, respectively	7,412	7,514
10.60%, 2012 Series, Industrial Development Revenue Bonds	25,000	25,000
9¼%, 2016 Series	25,000	25,000
First Mortgage Bonds Outstanding	140,144	141,177
Maturity of 4¾%, 1991 Series	(4,012)	—
Unamortized discount and premium on bonds, net	(319)	(335)
Total First Mortgage Bonds	135,813	140,842
Total Capitalization	$311,981	$307,995

Consolidated Statements of Retained Income

For the years ended December 31	1990	1989	1988
(Thousands of Dollars)			
Balance Beginning of Year	$55,210	$52,451	$48,865
Add—Net income	22,029	20,596	20,538
Deduct — Cash dividends on common stock	(18,104)	(17,279)	(16,376)
Preferred stock cash dividend requirement	(541)	(558)	(576)
Balance End of Year	$58,594	$55,210	$52,451

The accompanying notes are an integral part of the above statements.

Consolidated Statements of Cash Flows

For the years ended December 31	1990	1989	1988
(Thousands of Dollars)			
Operating Activities			
Net income	$ 22,029	$ 20,596	$ 20,538
Income items not affecting working capital			
Depreciation and amortization	22,098	19,878	18,231
Deferred taxes	2,528	2,720	3,629
Amortization of nuclear fuel	3,780	3,222	2,652
Amortization of investment tax credits	(882)	(924)	(1,019)
Allowance for funds used during construction – equity funds	(122)	(731)	(1,218)
Other	(250)	683	(62)
Net Funds Provided from Operations	49,181	45,444	42,751
Changes in working capital, excluding cash			
Special deposits	12	(328)	226
Accounts receivable	18,111	(1,853)	(151)
Unbilled revenue	769	(2,216)	(593)
Materials and supplies	(183)	(972)	(996)
Fossil fuel	(3,098)	(1,514)	720
Stored natural gas	448	(3,532)	—
Prepaid taxes	9	899	(423)
Other prepayments	231	(37)	82
Accounts payable	(2,304)	775	1,214
Accrued taxes	704	856	436
Other current liabilities	(3,235)	4,729	1,293
Other noncurrent items, net	4,479	(1,346)	(6,743)
Cash Provided by Operating Activities	65,124	40,905	37,816
Financing Activities			
Common stock issued	5,831	5,232	5,123
Cash dividends on common and preferred stock	(18,645)	(17,837)	(16,952)
Sale of first mortgage bonds	—	—	10,000
Maturity of 4⅝% First Mortgage Bonds, 1988 Series	—	—	(6,503)
Decrease in preferred stock and bonds outstanding	(1,233)	(1,179)	(1,149)
Increase (decrease) in interim loans	(25,900)	6,250	10,750
Cash Provided by (Used for) Financing Activities	(39,947)	(7,534)	1,269
Investing Activities			
Additions to utility plant and nuclear fuel	(22,955)	(30,881)	(36,984)
Allowance for funds used during construction – borrowed funds	(83)	(484)	(789)
Increase in nuclear decommissioning funds	(2,006)	(1,443)	(1,577)
Cash Used for Investing Activities	(25,044)	(32,808)	(39,350)
Change in Cash (Note 6)	133	563	(265)
Cash at Beginning of Period	1,429	866	1,131
Cash at End of Period	$ 1,562	$ 1,429	$ 866

The accompanying notes are an integral part of the above statements.

Notes to Consolidated Financial Statements

December 31, 1990, 1989, and 1988

1. Summary of Significant Accounting Policies

The consolidated financial statements reflect the application of certain accounting policies described in this note.

Certain 1989 and 1988 amounts have been reclassified to conform with the Federal Energy Regulatory Commission (FERC) Chart of Accounts adopted by the Public Service Commission of Wisconsin (PSCW) on January 1, 1990. Such reclassifications primarily relate to income taxes and contributions in aid of construction.

a. Basis of consolidation The financial statements include the accounts of the Company and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

h. Revenue recognition The Company records nbilled revenue on the basis of service rendered.

c. Utility plant Utility plant is stated at the original cost of construction, which includes indirect costs consisting of payroll taxes, pensions and other fringe benefits, administrative and general costs, and an allowance for funds used during construction (AFUDC).

AFUDC represents the approximate cost of debt and equity capital devoted to plant under construction. The Company presently capitalizes AFUDC at a rate of 11.15 percent on 50 percent of construction work in progress. The portion of the allowance applicable to borrowed funds is presented in the Consolidated Statements of Income as a reduction of interest expense, while the portion of the allowance applicable to equity funds is presented as other income. Although the allowance does not represent current cash income, it is recovered under the ratemaking process over the service lives of the related properties.

Substantially all of the Company's utility plant is subject to a first mortgage lien.

d. Nuclear fuel The cost of nuclear fuel used for electric generation is being amortized to fuel expense and recovered in rates based on the quantity of heat produced for the generation of electric energy by the Kewaunee clear Plant (Kewaunee). Such cost includes a provision r estimated future disposal costs of spent nuclear fuel. The Company currently pays disposal fees to the Department of Energy based on nuclear generation. The Company has recovered through rates and satisfied its entire fuel disposal liability for past nuclear generation.

e. Joint plant ownership The Company and two other Wisconsin investor-owned utilities jointly own two electric generating facilities, which account for 54 percent (325 mw) of the Company's net generating capability. Power from the facilities is shared in proportion to the companies' ownership interests. The Company's interests are 22 percent (232 mw) of the Columbia Energy Center (Columbia) and 17.8 percent (93 mw) of Kewaunee. Each owner provides its own financing and reflects its respective portion of facilities and operating costs in its financial statements. The Company's portions of these facilities, included in its gross utility plant in service, and the related accumulated depreciation reserves at December 31, were as follows (in thousands of dollars):

	Columbia		Kewaunee	
	1990	1989	1990	1989
Utility Plant . .	$85,122	$84,784	$53,661	$52,853
Accumulated Depreciation	(34,846)	(32,793)	(25,981)	(24,515)
Net Plant	$50,276	$51,991	$27,680	$28,338

f. Oeprociation Provisions at composite straight-line depreciation rates, excluding decommissioning costs as discussed below, approximate the following percentages of the cost of depreciable property: electric, 3.5 percent in 1990 and 3.2 percent in 1989 and 1988; gas, 3.6 percent in 1990 and 3.5 percent in 1989 and 1988. Depreciation rates are approved by the PSCW and are generally based on the estimated economic lives of property.

External trust funds have been established for costs associated with the future decommissioning of Kewaunee. It is estimated that the Company's share of decommissioning costs will be $118.6 million at the time of future decommissioning. Decommissioning costs, recovered through rates, are currently $1.3 million annually.

g. Income taxes

(1) The eligible investment tax credit is amortized over the service lives of the related property. Deferred income tax expense results principally from property-related timing differences due to different depreciation methods and lives used for income tax and financial reporting purposes. Cumulative income tax timing differences, on which the Company has not provided an amount equivalent to the estimated reduction in income taxes,

approximate $13.7 million at December 31, 1990. The income taxes payable in the future due to the reversal of such timing differences will be recovered in future years.

(2) The effective income tax rates are computed by dividing the total federal and state income tax provision by net income before taxes. The total income tax provision, including amounts recorded in other income, was $12,172,000, $7,159,000, and $9,949,000 in 1990, 1989, and 1988, respectively. The reconciliation to the statutory federal income tax rate is as follows:

	1990	1989	1988
Effective income tax rate as computed	35.6%	25.8%	32.9%
Restoration of investment tax credit	2.6	3.3	3.4
State income taxes, net of federal benefit	(3.7)	(3.2)	(3.4)
Benefit of tax rate differential	1.8	3.3	1.6
Adjustment to nonoperating taxes	—	3.0	—
Recovery of tax settlements	(1.6)	—	—
Other differences, net	(0.7)	1.8	(0.5)
Statutory federal income tax rate	34.0%	34.0%	34.0%

After 1991 the Company will be required to adopt new accounting and reporting standards set forth in Statement of Financial Accounting Standards (SFAS) No. 96 relating to income taxes, as amended by SFAS No. 103. The Company believes that the effect of adopting SFAS No. 96 will be primarily limited to certain balance sheet reclassifications with no significant effect on net income.

(3) As of December 31, 1990, the Company has recorded $2 million in deferred charges representing net payments made for income tax settlements from prior years. This amount is being recovered in rates through income tax expense over a three-year period.

h. Gas refunds In December, 1989 the Company received a $4.3 million refund from ANR Pipeline Company, relating to an ANR rate case settlement. The Company recorded the refund as a current liability and made corresponding refunds to its customers beginning in February, 1990. Also, gas revenues and natural gas costs were both reduced by $4.3 million in December, 1989.

i. Pension plans The Company has maintained a contributory defined benefit plan and a noncontributory defined benefit plan for substantially all nonsalaried and salaried employees, respectively. The pension benefit formula used in the determination of pension costs is based upon the average compensation earned during the last five years of employment for the salaried plan and career earnings for the nonsalaried plan subject to a monthly maximum.

The Company's funding policy is to make such contributions as are necessary to finance the benefits provided under the plans. The Company's contributions meet the funding standards set forth in the Employee Retirement Income Security Act of 1974 (ERISA). Ratemaking practice has historically allowed the accrued pension funding amount in rates. The Company has recorded 1990 pension costs equal to the funding amount. The funding amounts were $1,040,000 in 1990, $684,000 in 1989, and $785,000 in 1988. Of these amounts, $865,000, $573,000, and $689,000 were charged to operating expenses for the years 1990 through 1988, respectively. The plans' assets consist primarily of pooled funds invested with the Prudential Asset Management Group.

The funded status of the plans under SFAS No. 87 is as follows (in thousands of dollars):

At December 31:	1990	1989
Fair value of plan assets	$29,999	$28,865
Actuarial present value of benefits rendered to date – Accumulated benefits based on compensation to date, including vested benefits of $25,888 and $24,081, respectively	26,308	24,254
Additional benefits based on estimated future salary levels	6,127	6,141
Projected benefit obligation	32,435	30,395
Plan assets less than projected benefit obligation	(2,436)	(1,530)
Unrecognized net asset at date of initial application	(194)	(232)
Unrecognized net loss	962	4
Unrecognized prior service cost	1,541	1,656
Net liability	$ (127)	$ (102)

Components of net pension costs for the years ended December 31 (in thousands of dollars):

	1990	1989	1988
Service costs (benefits earned during the period)	$1,162	$ 842	$ 670
Interest costs on projected benefit obligation	2,223	2,028	1,899
Actual return on plan assets	(861)	(3,636)	(2,341)
Net amortization and deferral...........	(1,673)	1,450	355
Regulatory effect based on funding............	189	—	202
Net pension costs	$1,040	$ 684	$ 785

The net pension costs at December 31, 1990, 1989, and 1988 were based on an assumed long-term rate of return on plan assets of 9.0 percent, a weighted average discount rate of 7.5 percent in 1990 and 8.25 percent in 1989 and 1988, and an assumed rate of increase in future compensation levels of 5.0 percent in 1990 and 6.0 percent in 1989 and 1988.

In addition to the noted plans, the Company also maintains a defined contribution 401(k) benefit plan for salaried employees. The Company's costs of the 401(k) plan for the years 1990, 1989, and 1988 were $168,000, $158,000, and $144,000, respectively.

The Financial Accounting Standards Board has issued SFAS No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions. The Company plans to adopt this statement in 1993. This statement will require accrual of postretirement benefits (such as health care benefits) during the years an employee provides services. The costs of these benefits are currently expensed on a pay-as-you-go basis. The impact of this new statement has not been fully determined, but the change likely will result in significantly greater expense being recognized for provision of these benefits. The Company expects that the increased benefits expense will either be recovered currently through rates or that a regulatory asset will be recorded to reflect amounts to be recovered through rates in the future as the costs are paid. This statement should not have a significant impact on the Company's financial position or results of operations.

j. Accounts receivable On December 17, 1990, the Company sold $15 million of accounts receivable, without recourse, to a wholly-owned subsidiary of The First National Bank of Chicago. The proceeds from the sale were used to reduce short-term debt. All billing and collection functions remain the responsibility of the Company. Costs and fees associated with the sale program will be recorded as other operating expenses.

2. Capitalization Matters

a. Common stock Pursuant to the Company's Automatic Dividend Reinvestment and Stock Purchase Plan, 176,788 shares of common stock were issued in 1990 and 151,308 shares were issued in 1989. Allocations of proceeds were $1,415,000 in 1990 and $1,210,000 in 1989 to common stock par value and $4,416,000 in 1990 and $4,022,000 in 1989 to amounts received in excess of value.

b. Redeemable preferred stock The Company has an obligation to retire 4,000 Series E shares for $100,000 during each 12-month period ending August 1 through 1993. For the 12-month periods ending August 1, 1994 and 1995, the Company has an obligation to retire 8,000 shares for $200,000. Additional Series E shares equal to the annual retirement obligations may be retired during any 12-month period ending August 1.

c. First mortgage bonds The annual sinking fund requirements of the outstanding first mortgage bonds are $800,000 in 1991-1994 and $1,000,000 in 1995. The 4¾% First Mortgage Bonds, 1991 Series, will be maturing in April, 1991, requiring $4 million for retirement. In addition, $10 million will be required to retire at maturity the 1992 Series First Mortgage Bonds. As of December 31, 1990, the Company had satisfied its 1991 bond sinking fund requirements.

d. Notes payable to banks, commercial paper, and lines of credit For short-term borrowings, the Company generally issues commercial paper (issued at the prevailing discount rate at the time of issuance) which is supported by unused bank lines of credit. Information concerning short-term borrowings is set forth below (in thousands of dollars):

At December 31:	1990	1989	1988
Available lines of credit	$20,000	$30,000	$27,000
Commercial paper outstanding	$ 2,100	$28,000	$21,750
Bank loans outstanding	$ —	$ —	$ —
Weighted average interest rate	8.35%	8.52%	9.37%
During the year:			
Maximum short-term borrowings (includes bank loans)	$30,000	$32,000	$24,250
Average short-term borrowings	$17,551	$23,845	$10,868
Weighted average interest rate	8.29%	9.18%	7.92%

3. Segments ef Business

The table below presents information pertaining to the Company's segments of business.

Information regarding the distribution of net assets between electric and gas is set forth on page 27.

For the years ended December 31	1990	1989	1988
(Thousands of Dollars)			
Electric Operations			
Total revenues	$140,493	$131,961	$128,079
Operation and maintenance expenses	79,049	79,643	76,888
Straight-line depreciation and amortization	16,902	14,967	13,697
Other general taxes	6,027	5,777	5,798
Pre-tax Operating Income	38,515	31,574	31,696
Income tax items	10,702	6,321	7,789
Net Operating Income	$ 27,813	$ 25,253	$ 23,907
Constructien and Nuclear Fuel Expenditures (Electric)	$ 17,512	$ 24,249	$ 28,602
Gas Operations			
Operating revenues	$ 80,075	$ 85,627	$ 86,244
Revenues from sales to electric utility	867	805	1,327
Total Revenues	80,942	86,432	87,571
Operation and maintenance expenses	65,708	69,491	72,136
Straight-line depreciation and amortization	5,196	4,911	4,534
Other general taxes	1,547	1,530	1,477
Pre-tax Operating Income	8,491	10,500	9,42[illegible]
Income tax items	1,506	2,147	2,0[illegible]
Net Operating Income	$ 6,985	$ 8,353	$ 7,424
Construction Expenditures (Gas)	$ 5,443	$ 6,632	$ 8,382

4. Rate Matters

In June, 1990, the PSCW authorized an increase of 1.33 percent for electric service and a 1.08 percent decrease for gas service. The new rates are designed to increase annual electric revenues by $1.9 million and to decrease annual gas revenues $0.9 million. The changes were based on estimated operations for the test year ending May 31, 1991, and an authorized return on common stock equity of 13.2 percent. The PSCW continues to allow a current return on 50 percent of construction work in progress.

In October, 1990, the Company notified the PSCW of its intent to hold electric and gas rates to the levels authorized in June, 1990, through its next test year which ends May 31, 1992. A review is currently being done by the PSCW to determine if the Company's request should be granted. A decision is expected during the first half of 1991.

5. Commitmonts and Contingencies

Utility plant construction expenditures for 1991, including the Company's proportional share of jointly owned electric power production facilities and purchases of fuel for Kewaunee, are estimated to be $25.4 million, and substantial commitments have been incurred in connection with such expenditures. Significant commitments have also been made for fuel for Columbia.

ANR Pipeline Company (ANR) and Northern Natural Gas Company (NNG) are both entering into settlements with their gas suppliers concerning provisions of take-or-pay contracts that are not being met or the contracts are being canceled. An initial filing with FERC was made by ANR in December, 1988. ANR made additional take-or-pay filings with FERC in 1989 and 1990. Charges applicable to the Company in association with these take-or-pay filings are currently estimated to be $7.5 million. The charges are to be billed to the Company over a period of five years. NNG made a rate case settlement regarding the take-or-pay issue versus making a filing with FERC. NNG agreed to a volumetric surcharge on the fee paid for transportation gas. The surcharge will be effective over a period of five years. The total cost of the surcharge to the Company is not currently known. The PSCW has approved procedures whereby the Company will be allowed the opportunity to recover take-or-pay charges in rates.

The PSCW has assessed a $9 million penalty to Wisconsin Power and Light Company (WPL), the operator of Columbia (see Note 1.e.). The penalty relates to the alleged imprudent administration and mishandling of a coal contract for Columbia. WPL has appealed the PSCW decision. In the opinion of Company management, the ultimate resolution of this matter will not result in any material adverse effect on the Company's results of operations or financial position.

6. Supplemental Cash Flow Information

For purposes of the Consolidated Statements of Cash Flows, the Company considers cash equivalents to be cash on hand.

Cash payments for interest and income taxes were as follows for the years ended December 31 (thousands of dollars):

	1990	1989	1988
Interest paid, net of amounts capitalized...	$13,682	$14,576	$12,430
Income taxes paid......	$ 9,647	$ 1,655	$ 9,160

Quarterly Summary of Operations and Stock Prices

	Quarters Ended (Unaudited) (1)			
(Thousands of Dollars, Except Per-Share Amounts)	March 31	June 30	Sept. 30	Dec. 31
1990				
Operating Revenues:				
Electric	$32,129	$32,960	$42,122	$33,282
Gas	33,751	11,994	7,218	27,112
Total	65,880	44,954	49,340	60,394
Operating Expenses	56,984	39,217	39,159	50,410
Net Operating Income	8,896	5,737	10,181	9,984
Interest, Preferred Dividends, and Other	3,364	3,507	3,550	2,889
Earnings on Common Stock	$ 5,532	$ 2,230	$ 6,631	$ 7,095
Earnings per Common Share	80¢	32¢	94¢	$1.00
Dividends Paid per Common Share (3)	64¢	64¢	65¢	65¢
Price per Common Share (4)—High	$35½	$33½	$34½	$34¼
—Low	31½	31½	31¼	31¾
1989				
Operating Revenues:				
Electric	$29,655	$29,661	$40,023	$32,622
Gas	40,667	11,814	7,057	26,089
Total	70,322	41,475	47,080	58,711
Operating Expenses	60,947	36,600	37,917	48,518
Net Operating Income	9,375	4,875	9,163	10,193
Interest, Preferred Dividends, and Other	3,230	3,519	3,364	3,455
Earnings on Common Stock	$ 6,145	$ 1,356	$ 5,799	$ 6,738
Earnings per Common Share (2)	90¢	20¢	84¢	97¢
Dividends Paid per Common Share (3)	62¢	62¢	64¢	64¢
Price per Common Share (4)—High	$35½	$37½	$36	$35¾
—Low	29¾	33	34¾	34¼

Notes:

(1) The quarterly results of operations within a year are not comparable because of seasonal and other factors.

(2) The sum of earnings per share of common stock for any four quarterly periods may vary slightly from the earnings per share of common stock for the equivalent 12-month period due to the effect of rounding each quarterly period separately.

(3) There were 15,540 shareholders as of February 1, 1991. There currently are no restrictions on the Company's ability to pay dividends and none are expected in the foreseeable future. The Company has regularly paid dividends to its shareholders and expects that it will continue to do so in the future.

(4) The common stock of the Company is traded in the over-the-counter market and is included in the National Association of Securities Dealers, Inc. (NASD), National Market System. The range of prices is as quoted by the NASD Automated Quotation System.

Summary of Selected Financial Data

(Thousands of Dollars, Except Per-Share Amounts)	1990	1989	1988	1987	1986
Electric Operating Revenues					
Residential	$ 49,338	$ 46,152	$ 45,338	$ 42,987	$ 41,460
Commercial power and lighting	72,984	68,076	66,028	65,934	65,736
Industrial power and lighting	7,464	6,937	6,116	5,627	5,818
Street and highway lighting and public authorities	8,848	8,853	8,644	8,992	9,537
Other utilities	1,238	1,825	1,574	1,299	2,284
Miscellaneous	621	118	379	489	548
Total Electric Revenues	$140,493	$131,961	$128,079	$125,328	$125,383
Gas Operating Revenues					
Residential	$ 44,913	$ 47,666	$ 46,248	$ 41,788	$ 44,349
Commercial	28,487	30,630	31,374	29,942	33,700
Industrial	1,599	1,833	2,125	2,623	3,481
Interruptible boiler fuel (includes "Best Efforts")	4,621	5,017	6,163	883	2,665
Gas transport, net	397	445	290	1,286	470
Miscellaneous	58	36	44	283	299
Total Gas Revenues	$ 80,075	$ 85,627	$ 86,244	$ 76,805	$ 84,964
come, Earnings, and Dividends					
et income	$ 22,029	$ 20,596	$ 20,538	$ 19,627	$ 19,796
Earnings on common stock	$ 21,488	$ 20,038	$ 19,962	$ 19,034	$ 18,696
Earnings per average common share	$3.06	$2.92	$2.98	$2.90	$2.87
Cash dividends paid per common share	$2.58	$2.52	$2.45	$2.39	$2.32
Assets (year end)					
Electric	$331,609	$316,014	$268,216	$249,878	$240,809
Gas	104,270	119,402	88,898	84,096	81,858
Assets not allocated	14,455	32,592	31,335	30,741	30,462
Total	$450,334	$468,008	$388,449	$364,715	$353,129
Internal Generation of Casb					
Total cash used for construction expenditures and nuclear fuel	$ 22,955	$ 30,881	$ 36,984	$ 32,644	$ 31,409
Percent generated internally	127.7%	84.3%	64.7%	70.9%	71.9%
Long-term Debt and Redeemable Preferred Stock, Net (year end)	$141,813	$147,042	$148,206	$139,338	$147,032
Capitalization Ratios (year end)					
Common shareholders' equity	53.5%	47.9%	47.4%	47.9%	48.2%
Redeemable preferred stock*	1.9	1.9	2.0	2.2	2.4
Long-term debt*	43.9	41.9	43.9	46.2	49.4
Short-term debt (interim loans)	0.7	8.3	6.7	3.7	—

*Includes current maturities and current sinking fund requirements.

mGe

Future Financial Outlook

A Strong Fnture for MGE This section discusses several positive trends that continue to describe MGE. First, the Company will be able to continue providing reliable electric and gas service through the 1990s and beyond. Second, our recession-proof service territory continues to be one of steady growth. Finally, our financial measurements are expected to remain strong into the future.

Electric Operations The stable economic environment in Madison, due mainly to the concentration of governmental, educational, and medical activities, has provided years of steady growth in sales of electricity for Madison Gas and Electric Company. This is a trend we expect to continue into the future. Based partly on this trend, MGE has contracted to purchase power into the mid-1990s and plans to add gas combustion turbines in the mid and late 1990s to provide additional "peak demand" capacity. This will allow the Company to have sufficient electric capacity through the 1990s. A new record peak electricity demand of 519,000 kw was reached this past summer. This peak surpassed the previous one of 517,000 kw set during the summer of 1988.

We expect the growth rate of new electric customers to be about 1.5 percent per year during the next three years. Retail electricity sales are expected to increase at an annual rate of about 2.7 percent through 1993.

Our electric generation mix should continue much the same as in the past few years. Production at the highly efficient Kewaunee Nuclear Plant will provide about one-third of our electric needs, with slightly more than 60 percent of our requirements coming from our coal-fired plants. Thus, the use of oil and natural gas, which are our most expensive sources of energy, will be limited.

Environmental Issues The Federal Clean Air Act as amended in 1990 will have a major impact on many electric utilities. However, MGE does not anticipate that Phase I of the Act, effective in 1995, will have any major impact on our operations. We are also confident that if capital investments are required at some future date, the PSCW will allow timely recovery of such costs.

Gas Operations A variety of customer growth opportunities exist in our natural gas service territory as the demand for this clean and efficient fuel grows. We will continue to capitalize on these opportunities.

The 1980s were certainly years of change in the gas industry. However, the 1990's should be more predictable. Issues involving open-market purchases are being resolved and a variety of new customer options have been developed. At MGE, the change in the gas industry has produced savings for our customers. We forecast that annual increases in customers and sales over the next three years will be better than 3.0 percent.

Earnings Earnings in 1990 were a record $3.06 per share compared to the $2.92 reported in 1989. We anticipate that earnings should remain strong into the future. Our continuing efforts to minimize costs, consistent with providing quality service, will keep MGE efficient. Also, the expected growth in customers, sales, and revenues, as set forth above, will strengthen our base. Cost control and our expected growth are the factors that in October, 1990, allowed MGE to request a rate freeze through May, 1992. We expect the PSCW to approve this request.

The Company intends to continue the practice, adopted by the PSCW a number of years ago, of filing for annual rate reviews which reflect current costs of operation.

Oividends The trend of increasing dividends paid per share has continued. The Company has raised the dividend in September for ten consecutive years to provide its investors a fair return on their investment. We will continue to maintain a dividend policy which provides a return to shareholders while maintaining the value of their investment, consistent with the Company's capitalization and financing needs.

Regulation Regulation in Wisconsin by the PSCW has historically been progressive in nature and has balanced the needs of both the consumer and investor. We believe that the PSCW will pursue policies in the future which will maintain the financial health of the Company.

Capitalization The Company's current capital structure continues to remain strong. During 1990, our Automatic Dividend Reinvestment and Stock Purchase Plan added $5.8 million to common stock equity. The Plan will continue into the future as long as it remains consistent with the Company's capitalization and financing needs. Starting in March, 1991, MGE plans to obtain common shares for the Plan on the open market rather than issue new shares of stock.

During 1990, MGE significantly reduced its short-term debt level. This can be attributed to three factors. First, MGE sold a portion of its accounts receivable (see Note 1.j.), and used the proceeds to reduce commercial paper outstanding by $15 million. Second, the Dividend Reinvestment Plan, as previously mentioned, provided $5.8 million in funds thus reducing short-term debt requirements accordingly. Finally, internal generation, as mentioned below (see Construction Program), was greater than funds used for construction and nuclear fuel expenditures.

The Company's goal is to achieve and maintain a capital structure of about 50 to 55 percent common equity, up to 5 percent preferred stock, and 40 to 50 percent debt.

Diversification The Company currently has no plans to significantly diversify its operations. However, we will continue to explore opportunities related to energy services which will profitably enhance the Company's ability to improve service to our customers.

Construction Program Total construction expenditures over the next three years are expected to average about $25 million annually, a decline of nearly 20 percent from the average expenditures for the years 1987 through 1990. The annual construction expenditures should continue to be less than 5 percent of our gross plant in service. The Company expects that, on average, nearly 100 percent of these future expenditures will be financed using internally generated cash. For 1991, between 90 and 100 percent is expected to be financed internally. Through these expenditures the Company will have efficient, up-to-date facilities for providing reliable service to customers and for meeting their future energy needs.

Expenditures for construction and nuclear fuel estimated for 1991, actual for 1990, and the average for the three-year period 1987 to 1989 are shown below.

For the years ended December 31	1991 Estimated		1990		Annual Average 1987-1989	
(Thousands of Dollars)						
Electric Department						
Production plant	$ 5,392	21%	$ 1,483	7%	$ 5,385	16%
Transmission plant	3,900	15	2,926	13	3,919	12
Distribution plant	7,500	30	10,167	44	11,921	36
Nuclear fuel	2,908	12	2,295	10	3,405	10
Total Electric	19,700	78	16,871	74	24,630	74
Gas Department	4,800	19	5,069	22	6,706	20
Utility Plant Common te Both Departments	900	3	1,015	4	2,167	6
Total	$25,400	100%	$22,955	100%	$33,503	100%

Board of Directors

Richard E. Blaney
President and Manager,
Richard Blaney Seeds Inc.
Age 54, Director Since 1974

Robert M. Bolz
Retired Vice Chairman,
Oscar Mayer Foods Corp.
Age 68, Director Since 1972

Donald J. Helfrecht
Chairman and Chief
Executive Officer
Age 69, Director Since 1972

Richard M. Lawrence
Vice President - Public Affairs
Age 64, Director Since 1988

Jean N. Manchester
Advisor to the Chairman,
Neesvig's Inc.
Age 64, Director Since 1982

David C. Mebane
Senior Vice President and
General Counsel
Age 57, Director Since 1984

Frederic E. Mohs
Partner,
Mohs, MacDonald & Widder,
Attorneys at Law
Age 54, Director Since 1975

Robert B. Rennebohm
Consultant and Former
President of the University
of Wisconsin Foundation
Age 68, Director Since 1983

Phillip C. Stark
Chairman of the Board,
The Stark Company
Age 65, Director Since 1985

H. Lee Swanson
President,
State Bank of Cross Plains
Age 53, Director Since 1988

Frank C. Vondrasek
President and
Chief Operating Officer
Age 62, Director Since 1982

Audit Committee
Directors Blaney, Bolz,
Manchester, Mohs, Rennebohm,
Stark and Swanson

Compensation Committee
Directors Blaney, Bolz, Helfrecht,
Mohs and Vondrasek

Executive Committeo
Directors Blaney, Helfrecht,
Manchester, Mebane, Mohs,
Rennebohm and Vondrasek

Officers of the Company

Seated
(from left)
Helfrecht,
Vondrasek.
Standing
(from left)
Rennebohm,
Lawrence,
Manchester,
Stark, Bolz,
Mohs, Mebane,
Swanson, Blaney.

Seated
(from left)
Phipps, Schuh,
Duncan.
Standing
(from left)
Domek,
Wiskowski,
Krzos, Barlow,
Wolter, Thies.

Donald J. Helfrecht
Chairman and Chief Executive Officer
Age 69, Years of Service, 44

Frank C. Vondrasek
President and Chief Operating Officer
Age 62, Years of Service, 20

Kent M. Barlow
Senior Vice President -
Electric Systems
Age 56, Years of Service, 29

David C. Mebane
Senior Vice President and
General Counsel
Age 57, Years of Service, 13

G. Howard Phipps
Senior Vice President - Finance
Age 47, Years of Service, 18

Terrence J. Schuh
Senior Vice President - Gas Systems
Age 48, Years of Service, 22

Richard M. Lawrence
Vice President - Public Affairs
Age 64, Years of Service, 40

Richard H. Thies
Vice President -
Gas Systems Operation
Age 49, Years of Service, 27

Robert E. Domek
Assistant Vice President -
Human Resources
Age 60, Years of Service, 22

Gary J. Wolter
Secretary and Corporate Attorney
Age 36, Years of Service, 7

Joseph T. Krzos
Treasurer
Age 47, Years of Service, 8

Carol A. Wiskowski
Assistant Secretary -
Administration and
Investor Relations
Age 51, Years of Service, 24

Beverly R. Duncan
Assistant Secretary - Corporate Affairs
Age 59, Years of Service, 40

Shareholder Information

Shareholder Services MGE welcomes calls for information from its shareholders. Please use the toll-free telephone numbers below for questions about shareholder accounts, dividend payments, dividend reinvestment, lost certificates and stock transfers:

Madison calling area ....(608) 252-4744
Other Wisconsin areas 1-800-362-6423
Outside Wisconsin 1-800-356-6423
(Continental U.S.)

Be sure to notify MGE immediately, in writing, when a stock certificate is lost or stolen. Also notify MGE when a dividend check is not received within 10 days of the scheduled payment date and promptly when a name or address change occurs.

If you prefer to write, address correspondence to:
MGE Shareholder Services
Post Office Box 1231
Madison, WI 53701-1231

General Offices
133 S. Blair St.
Madison, WI
Telephone – (608) 252-7000
Business hours – 8 a.m. to 4:30 p.m., Central Time, Monday through Friday

Mailing Address
Post Office Box 1231
Madison, WI 53701-1231

Transfer Agent & Registrar
Harris Trust and Savings Bank
111 W. Monroe St.
Chicago, IL 60603

1991 Annual Meeting The annual meeting of shareholders will be held Monday, May 6, 1991, at 2 p.m. at the Holiday Inn-Southeast, 3521 Evan Acres Road, Madison, WI (near the I-90 and Highway 12-18 interchange).

Stock Listing The common stock of MGE is traded over-the-counter (OTC), is reported through the NASD National Market System (symbol: MDSN) and is quoted in the NASD Automated Quotation System. It is listed in most newspaper stock tables as MadGE.

Dividend Payment Dates Dividends on the company's common stock in 1991 are expected to be paid quarterly on or about the 15th of March, June, September and December.

The record date for dividend payments is usually the first day of the payment month.

Dividend Reinvestment/Stock Purchase Plan
The MGE Automatic Dividend Reinvestment and Stock Purchase Plan is available to all shareholders, employees and customers of MGE.

Quarterly dividends are automatically reinvested in shares of MGE common stock. Participants may make optional cash payments of $10 to $3,000 each quarter to purchase shares of MGE common stock.

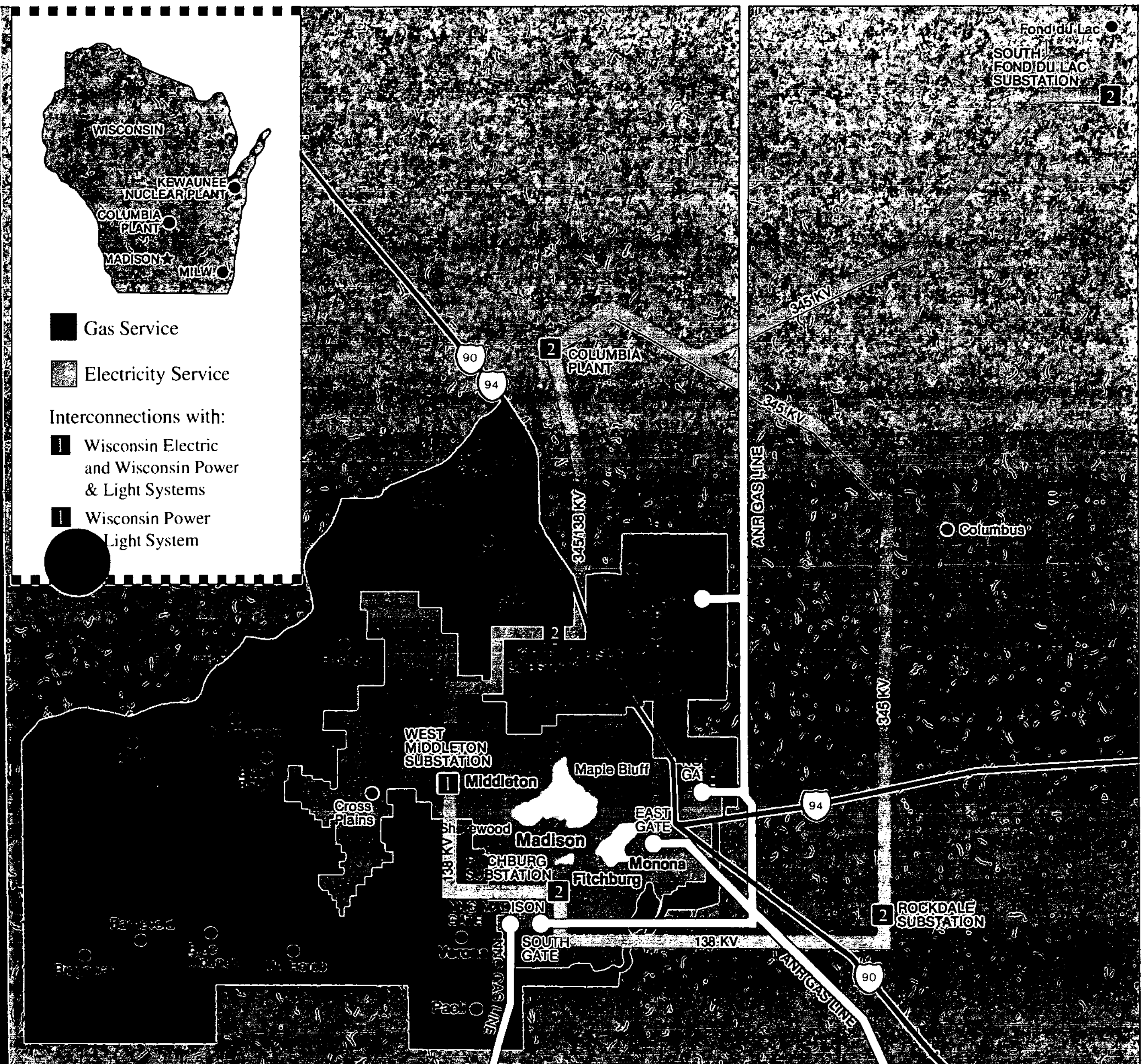
For more information, contact MGE Shareholder Services to receive the plan prospectus. An offer to sell common stock can only be made through the prospectus.

Reports Availahle Upon request, the company will furnish to any shareholder a copy of its 1990 annual report on Form 10-K as filed with the Securities and Exchange Commission.

A Statistical Supplement to this annual report to shareholders, containing additional financial and operating data, also is available to shareholders.

This entire report is printed on recycled paper.

The Area We Serve



Electricity Service MGE provides electricity service in Madison and surrounding communities in Dane County. The population in the electric service area is ore than 244,000. Electricity is supplied primarily by e Kewaunee Nuclear Plant, northeast of Madison on Lake Michigan; the Columbia Energy Center, near Portage, Wis.; and the Blount Station and several combustion turbines located in the Madison area.

Natural Gas Service MGE provides natural gas service in Dane, Columbia and Iowa counties. The population in the gas service area is nearly 308,000. MGE purchases gas from ANR Pipeline Co., Northern Natural Gas Co. and other sources for distribution to customers. The company also contracts with some customers to purchase and transport gas for them.

MGE

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Madison, Wisconsin 53701-1231
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