

ALASKA LEGISLATURE COMMITTEE FILES 2001-2002 8672

10396 HOUSE RESOURCES

HCR17

Amendment No. 1

OFFERED IN THE HOUSE

BY REPRESENTATIVE GREEN

Page 1, line 8:

Strike "is seeking"

Insert "has proposed"

Rationale: This still recognizes that Netricity is the only company that has approached the state with this idea, but does not assert any propriety to the company for future sale.

Page 2, line 2:

After "a portion of"

Strike "Alaska's North Slope"

Insert "The State's Royalty Natural Gas from Alaska's North Slope"

Rationale: This incorporates Royalty Gas, and leaves the resolve to the generic sale of the gas, with no companies mentioned.

HCR 17

~~SCR 10~~

Amendment No. 1

(2)

OFFERED IN THE ~~SENATE~~
House

BY ~~SENATOR TORGERSON~~
Representative Green

Page 2, line 1:

After "natural gas resources;"
Insert

"WHEREAS AS 38.05.183 mandates that any sale of the state's oil and gas royalty "shall be by competitive bid" unless the commissioner of the Department of Natural Resources: (1) determines, in writing with specific findings and conclusions, that the best interest of the state does not require competitive bidding or that no competition exists and (2) gives notice to the Alaska Royalty Oil and Gas Development Advisory Board;

WHEREAS AS 38.05.183 mandates that if the commissioner determines to sell royalty oil or gas non-competitively, the commissioner must consider the criteria in AS 38.05.183(e) and 38.06.070;

WHEREAS 11 AAC 03.03.010 mandates that the commissioner before the sale of royalty gas is completed, whether by competitive bid or not, the commissioner must make a public finding that the sale is in the best interests of the state

WHEREAS AS 38.06.050 requires that before any long-term, substantial sale of the state's oil or gas can made, the sale must be reviewed by the Alaska Royalty Oil and Gas Development Advisory Board and it must issue a written recommendation to the legislature about the sale;

WHEREAS AS 38.06.055 requires that before any long-term, substantial sale of the state's oil or gas can be made, the sale must be approved by the legislature;"

Page 2, line 3

After "natural gas"
Insert "at a competitive, reasonable price"

Page 2, line 5

FURTHER RESOLVED that the Alaska State Legislature requests that the commissioner determine in a written finding whether the state's royalty share of North Slope natural gas must be competitively bid at this time, and, if it must, conduct a competitive sale;

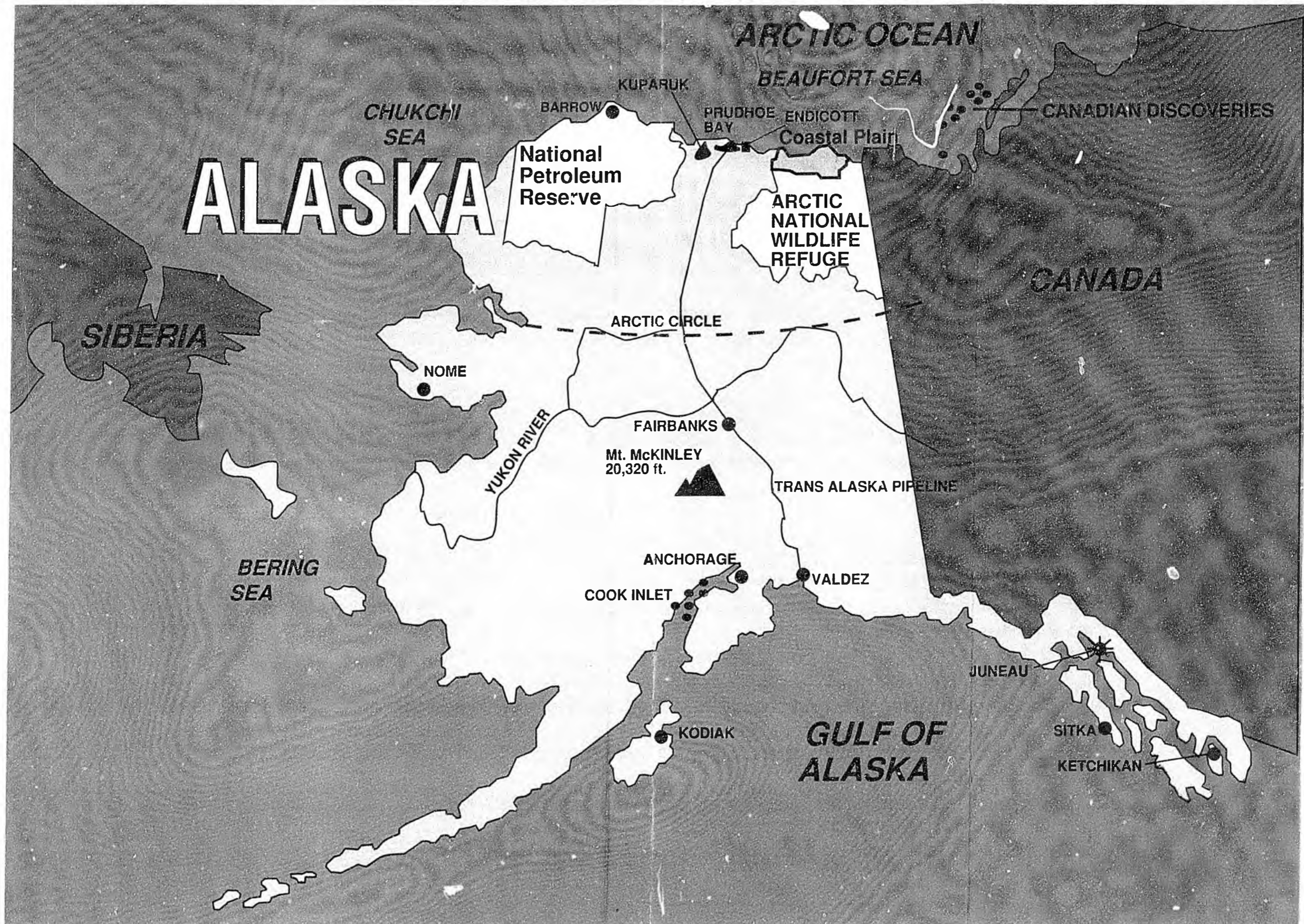
FURTHER RESOLVED that the Alaska State Legislature requests that, if the commissioner determines that the state's royalty share of North Slope natural gas need not be competitively bid, the commissioner: (1) enter into negotiations with Netricity, L.L.C., or other qualified purchaser, for the sale of the state's royalty share of North Slope natural gas consistent with the procedures and policies set forth in AS 38.05.183, AS 38.06.010 - .080, and 11 AAC 03.010 - .250; and (2) by the first day of the 2nd session of the 22nd legislature, either present the legislature with a contract for the sale of the North Slope royalty gas for approval or a report explaining why the state should not sell its royalty gas.

Netricity, LLC



Filling the Internet Power Gap
for the Future

ALASKA



Alaska: Powering the Internet

Using Electricity Generated with
Natural Gas on Alaska's North Slope
to Power Data Centers

Internet Power Demand

- Since 1995 internet data transmission volumes have been doubling approximately once every three months.
- Yankee Group, an internet research firm, estimates the data center business to be a \$9 Billion revenue business in 2000, rising to over \$47 Billion by 2003.

- Computers, servers and the Internet now consume approximately 8% of U.S. electricity, according to the Digital Power Report.
- Kenneth Lay, Chairman of Enron Corp., predicted in October, 1999, that by the year 2010, one-half of U.S. electricity production would be dedicated to computers and the Internet.

- 54 Million American households, or 51% of the total, have computers and 41.5% of American homes have Internet access, up from 26.2% in 1999.
- American businesses have over 50 Million computers in service.
- Cisco's 7500 Series Router, one of the data center business standards, can consume over 1,000 watts of power.

Alaska's Vast Natural Gas Reserves

- The North Slope of Alaska contains no less than 35 Tcf (Trillion Cubic Feet) of proven natural gas reserves.
- Those proven reserves are a mere fraction of the total volume of natural gas located on the North Slope as probable and possible reserves which could ultimately be brought into commercial production.

- Those natural gas reserves do not have a market currently due to the prohibitive cost of building a pipeline to the lower 48 states.
- Similarly, while gas fired power generation currently takes place on the North Slope, the costs of building an electrical transmission system to the lower 48 states and the associated line loss of electricity transmitting over that distance, prohibit the construction of power plants on the North Slope to use that gas in-situ to produce electrical power.

Proposed Pipeline Construction

- Feasibility studies are under way for the construction of a 2.5 to 4.0 Bcf per day pipeline from the North Slope to the Lower 48 with in-service dates estimated from 2006 to 2010.
- Any such pipeline will still leave a tremendous amount of gas stranded on the Slope with no market.

- Assuming the larger potential pipeline, of 4 Bcfd capacity, went in service at the earliest proposed date of 2006, that pipeline would move 1.46 Tcf per year from the Slope. At that rate it will take 24 years to move only the proven reserves of today from the Slope, with all probable and possible reserves behind that. Given the 6 years between now and the earliest in-service date for the pipeline, some of the proven reserves of today could not get into that pipeline for 30 years.

The Netricity Concept

- Utilize North Slope natural gas to generate electricity locally for use in a large data center located on the North Slope.
- The data center would be linked to the Internet via the existing Alaska United fiber-optic cable system from Prudhoe Bay to Valdez, Anchorage, Seattle and the North Pacific fiber-optic cable.

Advantages and Benefits of the Netricity Concept

- Creation of a market for natural gas in the near term without the need for a pipeline.
- High-tech, well paying employment opportunities for Alaskans.
- With its location and access to the North Pacific Cable this facility would access North American and Asian Internet markets and straddle communications between the two continents.

- Ambient Cooling: A major cost for data centers in the Lower 48 is air conditioning to keep electrical components from overheating. The North Slope offers tremendous ambient cooling possibilities with heat pumps or ambient air flowed around computer clean rooms, eliminating air conditioning needs and the power associated with that cooling effort.

Power Reliability

- Power generated on the North Slope could be fully dedicated and conditioned to meet the needs of the data processing industry, which is demanding a higher quality and reliability of power. That data center would not have to compete for power from the grid or suffer the spikes in that power as seen in the Lower 48 states.

Possible Advantages

- A combined cycle power plant would generate electricity at a higher cost but would also generate steam which could potentially be utilized in heavy oil recovery.
- CO₂ produced by the power plant could potentially be pumped into oil reservoirs to maintain pressure and as an Enhanced Oil Recovery effort.

Netricity's Requirements

- We need a gas supply in the range of 1 Tcf, to be utilized in the power plant over the next 25 years.
- The chances of bringing a data center to the North Slope are inversely proportional to the cost of natural gas. The lower the cost of gas, the lower the cost of electricity generated will be and that low cost electricity would attract the data center.

Natural Gas Purchase
Proposal

Proposal to Acquire Options to Purchase Natural Gas From the State of Alaska on the North Slope

- 1) Netricity, LLC (Netricity) needs to secure a natural gas supply on the North Slope of Alaska under a series of options to purchase gas in order to be certain of that supply prior to marketing electricity to data center power users.
- 2) We anticipate that electrical generation capacity will be added in 45 MW (Megawatt) increments. Each 45 MW turbine will require approximately 8.5 MMCFD.
- 3) The options that Netricity needs to secure to buy natural gas are requested under the following general terms and conditions:
 - a) Netricity would secure 14 options to purchase natural gas and each option could be exercised to execute a gas purchase contract for a volume of 90% to 110% of a volume of 8.5 MMCFD for at least 5 and no more than 25 years from a date commencing no less than 60 or more than 180 days after the date of option exercise. The 10% variability will allow Netricity to more exactly nominate and contract for the volumes needed, based upon experience and fuel consumption of the earliest turbine(s) installed.
 - b) The options would each be for a duration of 5 years, commencing on July 1, 2002.
 - c) All natural gas contracts resulting from the exercise of an option or options would be take-or-pay in nature, with Netricity being required to pay for all gas under contract, subject to make-up provisions allowing for previously purchased gas to be taken at a later date, and for buyout of the remaining term of any such contracts at an agreed upon discount.
 - d) All natural gas under option to Netricity must be utilized within Alaska and may not be exported out of the state prior to use.
 - e) Natural gas delivered under the contract would be dehydrated, free of sulfur and comprised of no more than 1 (one) molar percent of inert gases at a pressure base of between 650 and 1,000 psi.
 - f) Natural gas under the gas purchase contracts would all be delivered at mutually agreeable central facility(s) within or proximal to the Prudhoe Bay Field.
 - g) Natural gas purchased pursuant to the exercise of options would be at a price of \$0.36/mcf, regardless of the date of option exercise or duration of the contract secured by exercise of that option.
 - h) Events qualifying for excuse of performance by either party due to events constituting force majeure would be mutually agreed to by the parties.
 - i) State agrees not to supply any other parties with natural gas within the North Slope Borough for purposes of generating electricity that would be dedicated to powering data centers co-located with generation for a period of 5 years commencing on July 1, 2002.

News Articles

Alaska to hold critical role in US energy politics

Steven Poruban
Senior Staff Writer

Alaska's oil and gas resources—and the ability to explore for, develop, produce, and transport them—will play a key role in US energy politics in the coming years, particularly under a new administration in the US White House.

The exploitation of Alaska's extensive hydrocarbon reserves hinges largely on two main issues: the development of a scheme to transport natural gas from the Alaskan North Slope to markets in the US Lower 48

and the opening of the Arctic National Wildlife Refuge (ANWR) Coastal Plain to exploration and development (see related story, p. 66).

Topping the list of priorities of newly elected US Pres. George W. Bush is a revamp of the country's energy policy. As part of this policy, Bush has stressed the need to include an aggressive approach to exploration within the US, in hopes of easing the country's dependence on foreign oil.

During one of the presidential debates in early October 2000, Bush stated, "The only way to become less dependent on foreign sources of crude oil is to explore at home. And you bet I want to open up a small part of Alaska, because when that field is on line, it will produce [1] million b/d. Today, we import [1 million b/d] from [Iraq.] I would rather that a million come from our own hemisphere, our own country, as opposed from Saddam Hussein."

Pipeline routes

Currently, there are four proposed schemes for monetizing ANS gas, two of

which involve the construction of a pipeline through Canada to the Lower 48.

The first proposal, known as the Alaska Highway route, was first offered by Foothills Pipe Lines Ltd., Calgary, in the 1970s as the Alaska Natural Gas Transportation System (ANGTS) and has already received approvals from the US Federal Energy Regulation Commission and the Canadian National Energy Board. Many in the industry, including the state of Alaska and several Canadian provinces, including the Yukon Territory, strongly back the proposal.

"They are a lot further along

Alaska Gov.

Tony Knowles

"Alaska's natural gas can be the foundation of a 21st century economy of high-tech resource development, high-tech manufacturing, and new business growth and quality of life based on affordable clean energy. With known and estimated [Alaskan] reserves of up to 100 tcf, natural gas can fuel our economy for the next 50-70 years, but to start this mammoth project, we need a single point of contact."

with FERC than anybody else," explained Arlon R. Tussing, an oil and gas consultant based in Mercer Island, Wash., and a close industry observer of the various proposed routes.

The second pipeline proposal, offered by a Houston-based group of promoters, is being led by Arctic Resources Co. (ARC). The group, which has not received any government approvals yet, "are claiming to promote what looks to be the technically best proposal," Tussing commented.

The pipeline's route will run along the arctic coasts of the US and Canada, most likely from Prudhoe Bay to the Canadian Beaufort Sea and into the Mackenzie Delta, then via the Mackenzie Valley into northern Alberta.

The other two ANS gas monetization proposals involve the construction of a pipeline from the Prudhoe Bay area to tidewater in south-central Alaska for delivery into an LNG export scheme and the construction of gas-to-liquids facilities at Prudhoe Bay to create a GTL stream that could be injected into the existing Trans-Alaska Pipeline System oil pipeline.

Pipeline feasibility

The US government put its hand on the pulse of the oil and gas industry regarding an Alaskan gas pipeline most recently last September, when pipeline companies gathered to report to the US Senate energy committee that a pipeline from the North Slope to the Lower 48 would be a feasible project.

Sen. Frank Murkowski (R-Alas.), who chaired the committee, said proven ANS gas reserves are more than 35 tcf, with potential reserves of more than 10 times that.

"With prices [currently] hovering around \$5/Mcf, the economics have never looked better for Alaskan gas to be delivered to an eager market in the Lower 48," he said.

Foothills Chairman Robert L. Pierce said, "We believe that the Alaska Natural Gas Transportation System can be in service and transporting Alaskan North Slope gas in the 2006-07 time frame." He said the ANGTS overland pipeline route would move the gas from Alaska to northern Alberta, from which it would be shipped to the Lower 48.

The US and Canadian governments approved the route 21 years ago, Pierce noted, and it would be less environmentally disruptive than other overland routes because it would parallel existing highways.

Forrest Hoglund, ARC chairman and CEO, said that the development and delivery of the ANS region's abundant natural gas supplies will require a "unique approach."

"Our country's track record so far on trying to tap Alaskan and other arctic natural gas reserves and bringing the gas to market has not been successful," Hoglund



said. "Over the past 25 years, technological limitations and conflicting industry and governmental interests stalled attempts to tap these reserves.

"As a result, no project has been built, and proposed solutions have proven to be uneconomical," he added.

Jerry Halvorsen, president of the Interstate Natural Gas Association of America, called the construction of a gas line "...a matter of no small importance to America in terms of our economy and our future energy security."

The top ANS producers—BP, ExxonMobil Corp., and Phillips Petroleum Co.—were also present to state their opinions. The three ANS gas producers have agreed to a joint work program focused on ways to monetize ANS gas. The initial program, which is expected to cost about \$75 million, will involve the conceptual design, project cost estimating, permitting considerations, commercial structure, and overall viability of their Alaskan Gas Pipeline Project. The work program is expected to take 18 months, the companies said.

Robert Malone, BP's western region president, said BP is studying various options for moving the gas to market, including gas, natural gas liquids, and gas-to-liquids proposals. He said it would take 1 year to order materials for a gas pipeline and 3 years to build it.

"Our focus for Alaska gas is not to simply build a pipeline," Malone said. "Rather, our goal is to create a new gas exploration, development, and production industry...that sits side-by-side with the existing oil industry in Alaska."

Terry Koonce, president of ExxonMobil Production Co., told the committee, "At this time, we do not know whether the Lower 48 gas market will support the major capital expenditures required for a [gas] pipeline and when such a pipeline could be built and be in operation.

"It is worth noting that there is sufficient gas on the North Slope for multiple projects if market conditions are supportive. The prospect of building a gas-to-liquids project would not be precluded by building another project, such as a pipeline to the Lower 48."

Phillips Alaska Inc. Pres. and CEO Kevin Meyers said, "We are currently evaluating routing alternatives and plan to select a primary [pipeline] route and begin per-

mit application by midyear 2001. During 2001, we would expect a significant effort to build external stakeholder consensus around the primary route."

Meyers added that gas sales from the line would be a possibility by 2007, provided that the company receives stakeholder consensus from both the US and Canada for a primary project as well as cooperation from both countries' governments to expedite permitting.

"Whether the pipeline route is accepted or not, it's the producers that are going to make the decision," Tussing noted. "Of the three pipeline promotion groups, Foothills is the only one that has anything to bring to the table," he said. Tussing added that the White House's new cabinet candidates—especially the Department of Energy, the Department of the Interior, and the Environmental Protection Agency—will certainly have some influence over the pipeline's routing, but that the producers are ultimately going to make the final decision.

Alaska's role

Alaska has actively participated in studying the feasibility of transporting North Slope gas to markets south. Late last year, Alaska Gov. Tony Knowles expressed his state's support for the Alaskan Highway route. He billed the idea with the phrase: "My way is the highway." (OGJ, Dec. 4, 2000, Newsletter, p. 7).

The 1,800-mile line would be the largest private construction project in US history.

A shorter, competing route from Prudhoe Bay across the Beaufort Sea and down the Mackenzie River Delta to Alberta also has been suggested, but that route poses formidable technical, environmental, and logistical challenges,

including "under-ocean (arctic) pipelines at untested pressure over never-achieved length of 400 miles," Knowles said (OGJ, Nov. 27, 2000, p. 31).

Building the massive pipeline would generate billions of dollars for the Alaskan economy, provide access to more gas for use in that state, and create spin-off industries involving the use of gas liquids, say state officials.

Knowles has pledged to spend the rest of his office term pushing to launch construction of a natural



Consultant Arlon Tussing, on prospects for an Alaska gas pipeline

"Both the politicians and the producing companies are giving the impression that something is going to be built. It seems to me that this is a real stretch.

gas pipeline. He is on record in support of lowering state tax barriers to encourage such a project.

Further demonstrating his strong commitment to the line's construction, Knowles earlier this year issued an administrative order that, among other things, included:

- The creation of a "pipeline cabinet" and coordination office to centralize permitting and oversight procedures among state agencies for construction of such a pipeline.
- The introduction of an amendment that would include both gas pipeline and gas-to-liquids proposals in the state's 1998 Stranded Gas Development Act, which originally targeted only a possible LNG project.
- The issuance of a notice seeking a \$4 million appropriation to jump-start construction of a gas pipeline; the money would help fund initial work on permits and rights-of-way.

The administrative order "establishes a fully integrated state organization that utilizes existing government structure and processes to the maximum extent possible, minimizes impacts to existing agency functions, and promotes internal alignment of state agencies," the governor said.

The objective is a streamlined, one-stop state permitting facility that will be in place if a company decides to build a pipeline to move Alaskan gas to markets in the contiguous US.

"Alaska's natural gas can be the foundation of a 21st century economy of high-tech resource development, high-tech manufacturing, and new business growth and quality of life based on affordable clean energy. With known and estimated [Alaskan] reserves of up to 100 tcf, natural gas can fuel our economy for the next 50-70 years, but to start this mammoth project, we need a single point of contact," Knowles said.

The official pipeline coordinator will submit periodic progress reports to the governor and members of his gas pipeline cabinet, summarizing goals, objectives, and accomplishments in building the proposed pipeline.

In his state of the state address, given earlier this year, Knowles made it clear that a method to get North Slope natural gas to southern markets was a top priority.

"I believe Alaskans can be on the working end of a shovel building a natural gas pipeline within 2 years," he said. "After 2 decades of false starts and broken dreams, the economic and political stars are finally aligned in our favor. Natural gas is the fuel of the 21st century.

"We're working hard to keep this project on track—conferring with Alaska's major oil and gas producers; cosponsoring a natural gas summit in America's heartland; listening to Alaskans.

"And I'll soon appoint the governor's Natural Gas Policy Council to ensure Alaskans realize the maximum benefits from this project. This includes feedstock for new industries, community access to gas, and future gas projects."

Will it get built?

Although there are many who are backing the construction of the gas line from the North Slope, still others can't help but be wary of how long it has taken to get to this point. Tussing noted that with a project with such a large economy of scale, the long-term cost must truly justify its construction.

"Both the politicians and the producing companies are giving the impression that something is going to be built," he

said. "It seems to me that this is a real stretch. It wasn't much more than a year ago that the price out of Alberta was less than \$1 [\$/Mcf] (US). And, under those circumstances, to be competitive, you've got to bring the gas as far as Alberta with \$1—what kind of netback [would that provide]? We now have the highest market prices that we've seen since the evolution of the market price for gas, but we've also got the most volatile situation—nothing has happened to the fundamentals," Tussing observed.

As for when such a project would be completed, Tussing said, "It could be any time and no time."

Holding up the progress, Tussing said, is the fact that "the numbers just don't work out. Unless you're convinced that there has been a major, permanent structural shift—that there has been some change in the fundamentals between 1993 and 2000—the safest thing would be to assume that the fundamentals are going to be the same, roughly on the average that they have been over the previous 15 years. There's no basis for a gas pipeline either to the Lower 48 or to an LNG terminal," he said.

Opening ANWR

As for the likelihood that Bush would attempt to open up part or all of ANWR to exploration, Tussing said, "I can't foresee of the Bush administration—no matter how strongly they felt about it—collecting or being willing to cash in enough chips to do it. There's no popular support in the United States for it."

Tussing added that within Alaska, however, there is strong support for such a proposal. "Drilling is now prohibited without an act of Congress. There are members of Congress, maybe a third of the Senate under major pressure by the administration would vote to open it, but there isn't any national consensus for it," he said.

"The Democrats in Congress would love to have an early fight. It's really the only high-profile wedge issue in the environmental arena. ANWR is overwhelmingly an emotional issue. There's no way that the decision is going to affect the gas line or have any impact on national security." ♦

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Business travel

By David Field

Two: Southwest adds a daily non-stop April 1 between Chicago Midway and Fort Lauderdale, for a total of two daily, and one between Midway and Las Vegas, for three a day.

Doubles: TWA will give double Aviators frequent-flier miles Jan. 31-April 1

on three flights starting Jan. 31 between Miami and San Juan, Puerto Rico. Register for offer 01642 at 800-325-4815 or at twa.com.

In comparison to last October, an average one-way airplane ticket in first class increased about \$25:

\$237.33 Oct. 1999	\$262.49 Oct. 2000
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Source: Air Transport Association
By Quin Tan, USA TODAY

twa.com.


Triples: Thrifty offers triple the usual 50 miles per rental day to Alaska Airlines Mileage Plan members Jan. 1-April 1. Two-day minimum, 14-day maximum rental.

Growth: Ten-month-old JetBlue carried its 1 millionth passenger Thursday.

Plan: Delta will begin daily non-stops between Atlanta Hartsfield and Buenos Aires, Argentina, in April.

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More power! Tech firms act to avoid blackouts

Steps include backup generators, building substations

By Edward Iwata
USA TODAY

PALO ALTO, Calif. — As California's power crisis worsens, high-tech firms in Silicon Valley are taking steps to defend themselves against potentially devastating blackouts.

"Electricity is the oxygen of Silicon Valley," says Karl Stahlkopf, vice president at the Electric Power Research Institute in Palo Alto.

This year, state authorities have declared energy alerts on a record 52 days. California declares alerts when power

reserves fall dangerously below 7% of the state's capacity. To stave off energy outages and emergencies:

► About 200 Silicon Valley firms, from Intel to eBay, have agreed with utilities to voluntarily cut their energy use 10% or more during "rolling blackouts" imposed by utilities to lighten the load on the state's electrical system. This season, there have not been rolling blackouts. If there were, the tech firms would save up to 400 megawatts of energy — the equivalent of 400,000 households.

In return, the companies get rate discounts of 10% to 20% all year. Or they drop lower on the list of customers who may lose power during mandatory blackouts. "They can take more control over their destiny," says spokesman Larry Owens at Silicon Valley Power.

► Virtually every high-tech firm and

chipmaking plant has backup generators to keep safety and office equipment running. Oracle recently built a \$6 million substation to power its corporate offices in case of disaster.

► Learning from earthquakes and last year's Y2K scare, chipmaker LSI Logic has a "SWAF team" of managers and security people ready to jump on emergencies. They can communicate worldwide via shortwave radios and satellite phones, spokesman Kevin Brett says.

California had its first-ever statewide Stage 3 alert Dec. 7. In Stage 3, the severest warning, power may be cut to any customer at any time. In Stage 2, power may be cut to large business customers. During Stage 1, customers are asked to reduce electricity use.

In June, record heat waves and overheated transmission lines led energy officials to curtail power to parts of the

San Francisco Bay Area for several days. About 100,000 business and residential customers lost power for an hour or two each time.

Silicon Valley firms suffered \$100 million in lost production during the outages, says spokeswoman Michelle Montague-Bruno of the Silicon Valley Manufacturers Association.

Tech firms need more power than others because they run huge data-processing rooms, chipmaking plants and research labs. Electricity demand in Silicon Valley grew 12% last year; the statewide average was 3%, Stahlkopf says.

If the government and utilities don't start building a new electrical infrastructure in the next five years, Stahlkopf says, the crisis will spread.

► Bush pushes for more oil, 9A

Cover story

More
companies

Silicon Valley cranks up conservation

As energy rates soar 40%, companies dim lights, buy more efficient equipment

By Jon Swartz
USA TODAY

SAN FRANCISCO — Faced with the largest electricity rate increase in state history and the certainty of "rolling blackouts" when air conditioners crank up this summer, Silicon Valley firms are pulling out the stops to conserve energy.

► **Hewlett-Packard.** It has one energy "war room," and is building three more this year to monitor power consumption of 12,000 employees in 41 buildings in five San Francisco Bay Area cities. By tracking use closely, H-P could see where it could cut energy use. For example, it dims lights or adjusts temperatures when statewide electricity supplies are running dangerously low. H-P also is replacing \$500,000 refrigerator units that cool computer centers with more efficient models.

► **Roche Pharmaceuticals.** Stung by an hour-long outage March 19, the 1,200-person crew cut energy use 20% by urging workers to turn off computers, lights, even labs during peak energy usage.

► **Cisco Systems.** The networking giant is trimming electricity use an additional 10%, on top of earlier cutbacks, by using more energy-efficient equipment.

California regulators Tuesday approved monthly electricity rate increases of about 40%. The state already suffered rolling blackouts this winter, and more are likely in the summer heat.

With the Valley already living on the edge of darkness, though, the rapid growth of "server farms" — sprawling computer complexes that handle Internet traffic — threaten to tax the state's fragile power system even more.

"Energy use is now at a level the state expected in 2015," says analyst Jarad Carleton of Frost & Sullivan. "A lot of that, specifically the growth of server farms, is tied to tech's rapid expansion."

San Jose officials next week are set to approve the world's largest server farm, a

\$1 billion project that could guzzle the equivalent of energy for 150,000 homes. The 2.2 million square-foot facility, overseen by U.S. DataPort, would handle more than 10% of Internet traffic worldwide when it opens in 2002.

"The project's scale, in light of the state's energy problems, is troubling to say the least," says Michael Stanley-Jones of the Silicon Valley Toxics Coalition.

U.S. DataPort CEO Grant Sedgwick counters that the center will create 700 jobs and generate \$70 million over 10 years in property and utility taxes. It hopes to build its own power plant, he says.

Exodus Communications, which operates 14 data centers in California and 42 nationwide, already has plans to build its own power plant in the Valley.

Electronics manufacturer Solectron is exploring a more drastic move. It runs 22 plants in the Valley and may move some operations out of state.

"In the end, how do you remain competitive in this environment?" spokesman Kevin Whalen says.

3/29/01 USA TODAY

A troubled veneer plant in Ketchikan was tossed a life ring this week.

The Ketchikan Borough Assembly voted 5-2 Monday night in favor of negotiating up to \$2.5 million in new financing for Gateway Forest Products, which filed for Chapter 11 bankruptcy protection last month.

The assembly will meet again today to con-

by the borough with funds appropriated by Congress to ease Southeast Alaska's economic woes from a downturn in the timber industry.

A standing-room-only crowd turned out for Monday's night meeting. Many of the roughly 18 people who testified about Gateway asked the assembly to offer it more financial assistance and to assume the debt the company has racked up with local companies, said borough

real inconvenience, he said.

The Bankruptcy Court fil stopped payment on money owe up to that date, although the judge reorganization has allowed the co cash on hand to pay employees working, Bloom said.

See Page E-

SPOTLIGHT: WORKPLACE

Bush repeals Clinton's ergonomics regulati

■ POLICY: President says OSHA rules were too costly and broad.

By SANDRA SOBIERAJ
The Associated Press

WASHINGTON — President Bush on Tuesday signed a repeal of new workplace safety regulations, saying they posed "overwhelming compliance challenges" for businesses.

The measure, revoking rules issued late in the Clinton administration, was the first substantive

policy that Bush signed into law.

The rules from the Occupational Safety and Health Administration were aimed at preventing carpal tunnel syndrome, tendinitis and other health problems associated with repetitive motion, awkward postures, contact stress and the like. If such injuries were reported, adjustments to work stations would have been required.

Businesses, which were given until October to comply, said the required changes would cost them as much as \$100 billion a year.

Bush has asked Labor Secre-

tary Elaine Chao to devise a cheaper way of addressing workplace safety.

The president signed the bill in the Roosevelt Room with only a few spectators on hand.

"There needs to be a balance between an understanding of the costs and benefits associated with federal regulations," Bush said in a statement. "The ergonomics rule would have cost both large and small employers billions of dollars and presented employers with overwhelming compliance challenges."

Earlier Tuesday, women business lea signing the legislati represented change " is positive."

"The rule would h. bureaucratic one-siz tion to a broad range and workers — not ; ment at work," Bush :

He held the legisl victory for himse Republican-controlle Last week, in his first

See Page E-4

Inside Alaska business



California power woes hit locally

Rolling blackouts in California because of power shortages have thrown the off switch for at least one Alaska company. Kay Cashman, publisher of Petroleum News Alaska, said her Web site — petroleumnewsalaska.com — went down Tuesday for at least several hours because its host computer is in Palo Alto, Calif. An outage happened once before this year, she said. "It's frustrating," Cashman said. Anchorage-based Petroleum News plans to move its host-computer site to Haines, where its Web master resides, she said.

NANA profits again top \$5 million

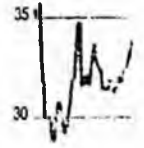
NANA Regional Corp. posted a \$5.1 million profit in 2000, down 2.5 percent from a year earlier, according to the company's annual

report. It marks the third year in a row the Kotzebue-based Native regional corporation made a profit in excess of \$5 million. The corporation, which represents Inupiat from Northwest Alaska, reported revenue of \$176 million, up 30 percent. NANA has just more than 10,000 shareholders and owns 1.7 million acres of surface estate and 1.8 million of sub-surface. The company has more than a dozen subsidiaries in the oil field services, mining support services, real estate, tourism engineering and other ventures. NANA's net royalties from its huge Red Dog lead and zinc increased to \$4.4 million in 2000, up from \$3 million the year before, the annual report says. The NANA board has set a goal of achieving 15 percent annual growth and \$10 million in profits by 2005, according to the company.

Daily News wire reports

Alaska

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TUESDAY STOCKS:

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▼ NASDAQ: -93.74 to 1,857.44

▼ S&P 50




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Wednesday February 14, 10:42 am Eastern Time

Press Release

SOURCE: Edison Electric Institute

Power Companies, Developers Discuss Impact of Internet Data Centers; Along With Business Opportunities, Server Farms Pose Huge Power Demands



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WASHINGTON, Feb. 14 /PRNewswire/ -- The growth of Internet data centers -- buildings that house computer servers and networking equipment and can consume as much power as a small city -- were the focus of a just-concluded conference hosted by Edison Electric Institute. The event, Electric Utilities and Internet Hotels/Data Centers: Building the Infrastructure for the New Economy, was the first gathering of all parties, including electric utilities, zoning officials, data center developers, and consulting engineers to scrutinize the unique challenges and opportunities that data centers pose. A follow-up conference will be held in early fall.

Internet data centers, also called server farms, Internet hotels, or Telco hotels, store the computer servers and networking equipment that manage the Internet's traffic. Located near crucial fiber-optic cable networks that have the broadband capacity to handle their large amounts of data, the data centers consist of little more than racks and racks of computers and the air conditioners needed to keep them cool. The centers, however, operating 24/7, demand absolutely reliable power and lots of it. Compared with the 5-10 watts per square foot that a typical office building requires, data centers may need between 50 to 200 watts a square foot, and can be as big as three football fields.

"Although electric utilities welcome the increased load a data center represents," said EEI's Steve Kiesner, Director, National Accounts. "We often have to make huge investments in generation and transmission infrastructure to support them. How these will be paid for was a key discussion topic."

Kiesner went on to point out that many factors will affect the power needs of an Internet hotel. A developer may come in and ask for five megawatts or 10. But as the center starts out, its business may warrant only one to two megawatts. After that, business will probably fluctuate, and along with it, the center's need for power. Another variable is that as computer equipment becomes smaller and more energy efficient, the future power estimates may never be realized.

"The many questions Internet data centers pose require that we get input from all sides," said EEI's Group Director of Energy Services, Michael McGrath. "Developers want power to be supplied quickly and 99.9999 percent reliable. Utilities want safety concerns addressed, financial protections for their other customers, and some security on their investment."

A follow-up conference will take place early this fall. In preparation, the group planned a number of action items. Among them were setting up a task force and list server to maintain a dialogue on issues as they arise. One key action item for the new task force will be to meet with utility regulators and discuss the potential effect of these data centers on regional power markets. Another item will be to compile actual facility performance profiles to prevent over design on a utility's part.

"This conference was a great start," said McGrath. "As we move forward, we all look toward working together to ensure a smooth transition with the least amount of impact on the power grid and without slowing down the development process."

For more information about EEI's Internet data center initiative, please contact Steve Kiesner at 202-508-5414, skiesner@eei.org, or Charles Foster at 202-508-5554, cfoster@eei.org.

Edison Electric Institute (EEI) is the association of United States investor-owned electric utilities and industry affiliates and associates worldwide. Its domestic members generate approximately three-quarters of all the electricity generated by electric utilities in the country and service about 70 percent of all ultimate customers in the nation.

SOURCE: Edison Electric Institute

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High-tech operations could black out Seattle

New 'server farms' to handle Internet could drain system

The Associated Press

BELLEVUE, Wash. — More than two dozen "server farms" — data centers that handle the traffic of the Internet — are planned for the Seattle area, another sign of the region's high-tech boom and prosperity.

But there's a price: Collectively, the farms will need nearly as much electricity as the entire city of Seattle, at a time when the Northwest already faces nearly a 1-in-4 chance of power outages.

"This is just a massive load that was unforeseen by anybody," said Steve Secrest, director of rates and regulations for Puget Sound Energy, the Bellevue-based utility that provides electricity to much of western Washington.

It takes 1,200 megawatts to keep things humming in Seattle, which has its own public utility. Each server farm requires 30 megawatts to 50 megawatts. By comparison, it takes about 30 megawatts to power the entire University of Washington.

The Northwest Power Planning Council, which tries to balance wildlife and fish protection with power generation needs in Washington, Oregon, Idaho and Montana, had been worried about the region's

generating capacity even without the server farms.

Based on a study completed in March, the council predicted a 24 percent chance of winter outages in the four-state area by 2003.

"The concept of server farms wasn't on the horizon (then) ... so we didn't include it," council spokesman John Harrison told the *Eastside Journal*, the paper said Tuesday.

Even without them, the study concluded, there is a need for the "equivalent of 3,000 megawatts" in new generating capacity to ensure no more than a 5 percent chance of blackouts for the region, a power-industry standard.

Capacity to meet that forecast can't be developed in time, Harrison said. The only new generating plants scheduled to come on line by 2003 are two natural gas-powered plants, together producing 600 megawatts a day, he said.

"We would still have a 2,400-megawatt problem," Harrison said.

Server farms are "definitely a concern, and whether this is going to be the straw that breaks the camel's back is a good question," said Tony Usibelli, a senior energy policy specialist with the state Community Trade and Economic Development Department.

No regulatory mechanism would allow Seattle City Light or Puget Sound Energy to just say no to the server farms.

Utilities have an "obligation to serve," Usibelli said.



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WINING!

Level 3 will build giant technical hub outside Boston

By Jerd Smith
News Staff Writer

Broomfield-based Level 3 Communications will build a 500,000-square-foot technical hub outside Boston this year to meet skyrocketing demand for space from Internet service providers and others.

Level 3 already operates mega-centers in New York, Boston and Silicon Valley and plans a third in Hong Kong this year, said spokes-



woman Kathy Sattem. Level 3 operates 38 so-called gateway centers nationwide. They are used by Internet service providers and others as switching stations and technical entryways to phone networks and the Internet.

A 96,000-square-foot center

just finished in Silicon Valley is already sold out, Sattem said.

"Our expansion in New England and other areas around the country is a direct result of the continuing growth of the Internet economy," said Level 3 President Kevin O'Hara.

The centers serve as portals to Level 3's national and international broadband network. Level 3 already has 4.4 million square feet of technical space and plans to have 6.5 million square feet.

9/7/2000 RM News

Qwest launches CyberCenter in Highlands Ranch

By Jeff Smith

New Staff Writer

When MSHOW.com organized a live Web conference for Qwest Communications Inc. two weeks ago, the Denver company turned to Qwest itself for help in "hosting" the event.

Servers, high-speed routers and other equipment at Qwest's new CyberCenter in Highlands Ranch were used to pipe video and audio onto the Internet from an analyst meeting in New York.

"You create a lot of traffic when you video-stream 10 gigabytes in five minutes to 1,000 people," said Robert Ogdon, MSHOW.com's chairman and chief executive officer. But

this event, he said, "was seamless" for those who watched on the Web.

Qwest is betting tens of millions of dollars that hundreds of other companies will take advantage of the technology offered at its center in the Denver area.

The center, formally launched Wednesday, is designed to help companies with information technology applications ranging from Web content distribution to data management.

The facility is Qwest's 12th in a U.S. rollout that is planned to reach 24 by the end of 2001. The technology is impressive: Routers are capable of sending video, voice and data out to the information

highway at speeds of up to 2.4 gigabits per second.

That's roughly equivalent to 45 million simultaneous Internet connections at a standard modem speed of 56 kilobits per second.

And despite the rapid increase in the number of similar cyber centers across the country, company officials are bullish.

"We are not concerned that there is overbuilding in the industry," said Richard L. Weston, senior vice president of Qwest Internet Solutions. "We see insatiable demand."

But while space in a previous cyber center in California was sold out in 13 days, Qwest officials estimate the company will probably

"fill" the Highlands Ranch center in about a year.

"Companies may not put their whole (information technology) applications on the Web," Weston said, but may start with such applications as e-mail and sales management.

The center has racks available for up to 100,000 servers.

Company officials declined to disclose current or potential customers, but nationally the telecommunications company's business customer base includes 40 of the Fortune 50, leading dot.com companies such as Amazon.com, and top Internet providers such as AOL and Akamai.

To safeguard customer operations, Qwest is providing 24-hour security and video surveillance of all entrances and aisles. Just to reach the area where the servers are housed requires placing the back of one's hand through a "biometric" scanner that matches the scan to one's photo ID. Server racks inside are locked for customer protection.

The company has built in redundancies, including two backup connections to the Internet. A staff of 19 has been hired to monitor operations and troubleshoot.

The center also has backup for power, heating, ventilation, air conditioning and fire suppression.

Business travel

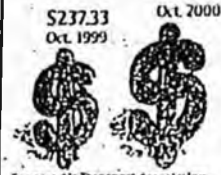
By David Field

Two: Southwest adds a daily non-stop April 1 between Chicago Midway and Fort Lauderdale, for a total of two daily, and one between Midway and Las Vegas, for three a day.

Doubles: TWA will give double Aviators frequent-flier miles Jan. 31-April 1

on three flights starting Jan. 31 between Miami and San Juan, Puerto Rico. Register for offer 01642 at 800-325-4815 or at twa.com.

In comparison to last October, an average one-way air plane ticket in first class increased about \$25:



Source: Air Transport Association
By Quin Tan, USA TODAY

twa.com.

Triples: Thrifty offers triple the usual 50 miles per rental day to Alaska Airlines Mileage Plan members Jan. 1-April 1. Two-day minimum, 14-day maximum rental.

Growth: Ten-month-old JetBlue carried its 1 millionth passenger Thursday.

Plan: Delta will begin daily non-stops between Atlanta Hartsfield and Buenos Aires, Argentina, in April.

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More power! Tech firms act to avoid blackouts

Steps include backup generators, building substations

By Edward Iwata
USA TODAY

PALO ALTO, Calif. — As California's power crisis worsens, high-tech firms in Silicon Valley are taking steps to defend themselves against potentially devastating blackouts.

"Electricity is the oxygen of Silicon Valley," says Karl Stahlkopf, vice president at the Electric Power Research Institute in Palo Alto.

This year, state authorities have declared energy alerts on a record 52 days. California declares alerts when power

reserves fall dangerously below 7% of the state's capacity. To stave off energy outages and emergencies:

► About 200 Silicon Valley firms, from Intel to eBay, have agreed with utilities to voluntarily cut their energy use 10% or more during "rolling blackouts" imposed by utilities to lighten the load on the state's electrical system. This season, there have not been rolling blackouts. If there were, the tech firms would save up to 400 megawatts of energy — the equivalent of 400,000 households.

In return, the companies get rate discounts of 10% to 20% all year. Or they drop lower on the list of customers who may lose power during mandatory blackouts. "They can take more control over their destiny," says spokesman Larry Owens at Silicon Valley Power.

► Virtually every high tech firm and

chipmaking plant has backup generators to keep safety and office equipment running. Oracle recently built a \$6 million substation to power its corporate offices in case of disaster.

► Learning from earthquakes and last year's Y2K scare, chipmaker LSI Logic has a "SWAT team" of managers and security people ready to jump on emergencies. They can communicate worldwide via shortwave radios and satellite phones, spokesman Kevin Brett says.

California had its first ever statewide Stage 3 alert Dec. 7. In Stage 3, the severest warning, power may be cut to any customer at any time. In Stage 2, power may be cut to large business customers. During Stage 1, customers are asked to reduce electricity use.

In June, record heat waves and overheated transmission lines led energy officials to curtail power to parts of the

San Francisco Bay Area for several days. About 100,000 business and residential customers lost power for an hour or two each time.

Silicon Valley firms suffered \$100 million in lost production during the outages, says spokeswoman Michelle Montague-Bruno of the Silicon Valley Manufacturers Association.


Tech firms need more power than others because they run huge data-processing rooms, chipmaking plants and research labs. Electricity demand in Silicon Valley grew 12% last year; the statewide average was 3%, Stahlkopf says.

If the government and utilities don't start building a new electrical infrastructure in the next five years, Stahlkopf says, the crisis will spread.


► Bush pushes for more oil, 9A

Cover story

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11/28 10:20
Computers to Boost Energy Use More Than Forecast (Update1)
 By Bradley Keoun

Washington, Nov. 28 (Bloomberg) -- Computers and electronic equipment are driving growth in U.S. energy usage faster than the government forecast a year ago, according to a report published today by the Department of Energy.

Electricity demand during the next two decades is expected to rise by 1.8 percent a year, the department said in an annual energy outlook, faster than the 1.3 percent expected in last year's report.

The revision came after a "reevaluation of the potential for growth in electricity use for a variety of residential and commercial appliances and equipment, including personal computers," the report said.

Electricity prices will decline 10 percent by 2020 as deregulation and increased competition in the electric industry lead to cuts in operating, maintenance and administrative costs, the report said.

Total residential energy usage was projected to grow by 1.2 percent a year to 24.4 quadrillion British thermal units in 2020, up from the 23 quadrillion forecast a year ago. The most rapid growth will come from computers, electronic equipment and appliances.

Commercial energy usage will grow by 1.4 percent a year to 20.8 quadrillion Btu, driven mostly by rising demand from computers, office equipment and telecommunications devices.

Growing Energy Demand

Overall, the nation's total energy usage is expected to grow by 1.3 percent a year to 127 quadrillion Btu in 2020. That's up about 30 percent from this year's usage of an estimated 97.6 quadrillion.

U.S. oil demand was projected to grow by 1.3 percent a year, led by growth in transportation, which accounts for 70 percent of U.S. petroleum consumption.

"Higher light-duty vehicle travel in the forecast is partially offset by higher vehicle efficiency," the report said.

The share of U.S. petroleum demand met by imports will increase to 64 percent in 2020 from 51 percent in 1999.

Higher oil output from the Organization of Petroleum Exporting Countries and from non-OPEC countries will meet growing demand from the United States, the Middle East, the former Soviet Union, China and the Pacific Rim.

Falling Oil Prices

World oil prices in 1999 dollars are expected to average \$22.33 a barrel in 2020, about the same as forecast last year. Oil prices this year are expected to average about \$27.60, up from \$17.35 last year because of production cutbacks last year by OPEC and several non-OPEC nations.

Oil prices are expected to fall to \$22.50 a barrel by 2003 as supply catches up with demand.

Natural gas prices were expected to be 10 percent higher in 2020 than the agency forecast last year, as new supplies from domestic wells and Canadian imports fail to keep pace with rising consumption by power producers.

Natural gas prices were expected to average about \$3.30 per thousand cubic feet (\$3.21 per million Btu) in 2000 and 2001, up about 60 percent from last year's \$2.08. Prices are expected to decline through 2004 as new technology leads to improvements in drilling and the efficiency of completed wells.

Power Producers

Prices are expected to average \$3.13 per thousand cubic feet in 2020 as demand from power producers grows. The amount of gas used in electricity generation is expected to triple between 1999 and 2000.

The Energy Department revised its estimate for annual U.S. natural gas demand in 2020 to 34.7 trillion cubic feet, up 10 percent from last year. That means natural gas demand will grow 2.3 percent a year from an estimated 22.74 trillion cubic feet this year.

The share of total U.S. electricity generation attributed to natural gas was expected to increase to 36 percent in 2020 from 16 percent in 1999, as power producers seek the cleanest-burning fuel available.

About 27 percent of the nation's 97 gigawatts of nuclear generating capacity will be retired by 2020, and no new nuclear power plants are planned.

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SECTION B

Denver Rocky Mountain News • Business

11:15



Mile High Tech

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MONDAY • MARCH 27 • 2000

Qwest, IBM form \$5 billion alliance

Joint venture will focus on Web-hosting centers

by Jerd Smilli
News Staff Writer

Qwest Communications moved Sunday to accelerate its lucrative technology ser-

vices business, joining forces with IBM in a \$5 billion venture to build and operate 28 Web hosting centers nationwide.

Denver-based Qwest, which owns a 25,500-mile high-speed, fiber-optic network, already operates seven centers nationwide, with another seven due to be operating by the end of the year. Under the terms of its agreement with IBM, another

28 centers will be built during the next three years.

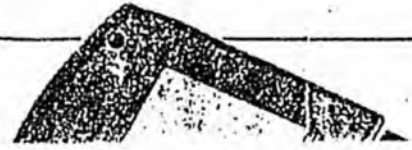
Web hosting centers provide the software, hardware and networking needed to operate Web sites. Though huge online companies, such as Amazon.com, host their own Web sites, millions of other medium and small businesses hire outside companies to provide the physical space, opera-

tional support and Internet access that keep their sites open for business.

Qwest and IBM say their partnership will allow both companies to cash in on the demand these businesses are generating.

"Our alliance with Qwest demonstrates how leaders in the information technology

See QWEST on 12B



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A specific conference and exhibit to be held along the normal flow of a Feather Sessions (HSI), and see the Registration: <http://ibeciq.org/register.html>. Secure online registration closes 12PM, March 31st. Daily registration at the Marriott: March 31st, 3PM-7PM. Event Day Registration at the Marriott opens at 7AM.

Web site: <http://ibeciq.org>
Michael Hamrick, Chairman
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Kevin Coffey, Vendor Coordinator
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Qwest, IBM to cash in on demand

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and Internet communications industries can collaborate to help companies worldwide become e-businesses," Doug Elix, IBM senior vice president of Global Services, said in a statement Sunday.

"This is a great deal for both companies," said Jeanne Schaaf, a network analyst at Boston-based Forrester Research.

Qwest provides long-distance phone and Internet access services. The young company, in the process of merging with Denver-based US West, has been pushing hard to generate more business for its new network.

The IBM partnership will help do that, said Qwest spokeswoman Jane Morrissey. Under the terms of the agreement, IBM will buy about \$2.5 billion worth of services from Qwest during the next seven years, with Qwest paying IBM a similar amount to build the centers and provide technical support.

Qwest will be responsible for overall management of the centers.

"This is the largest commercial venture we've done," Morrissey said.

Forrester's Schaaf said the relationship with IBM will give Qwest access to Big Blue's considerable industry contacts and e-commerce expertise.

"It gives Qwest a great opportunity to work with IBM and some of its higher-level clients," she said.

The Web hosting industry is one of the fastest-growing in the technology world. Forrester estimates that the revenue generated by Web hosting will reach \$14.6 billion by 2003, up from \$2 billion in 1999.

Qwest, like other companies, has been struggling to meet demand for Web-hosting services, with its seven existing centers filling within weeks of being finished.

Joining forces with IBM will allow Qwest to offer more services faster, said Lew Wilks, president of Qwest's Internet and multimedia

markets division, in a statement Sunday.

"We can improve customers' financial performance; lower their capital costs and cut the time needed to introduce new e-business services," he said.

Under the new agreement, four Web hosting centers will be built this year — one each in Dallas; Philadelphia; Sterling, Va.; and San Jose, Calif.

Additional centers are planned in Denver; Atlanta; Austin, Texas; Boston; Chicago; Los Angeles; Washington, D.C.; New York City; Phoenix; Seattle; and another near San Jose in the Silicon Valley.

Qwest has come under fire this year from technology analysts who have been concerned that the company has been distracted from its focus on new technology businesses by the merger with US West.

But Qwest officials said Sunday the IBM joint venture should allay some concerns.

RockyMountainNews.com

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BUSINESS
MONDAY

Denver Metro Chamber of Commerce small business start-up seminar, 1445 Market St., (303) 620-8076.

Colorado Association of Realtors Boulder Unit, monthly meeting, Monday of each month, Lopez & Associates, 152 E. Travis (303) 494-9278.

Downtown Toastmasters, noon, The Broker Restaurant, Lunch: \$5. Info: (303) 321-3711.

Skyline Toastmasters, 6:45 p.m., South Grant Presbyterian Church, 1700 S. Grant St. 0469.

Titan Toastmasters, 6:00 p.m., Country Club, (303) 747-7171. Drive: Info: (303) 971-6181.

TUESDAY

Rocky Mountain Chapter of the Government Meeting Profession meeting, 2100 1/2 Contract Issue Your Boss Day, 11:30 a.m. Holiday Inn Southeast, Annual meeting meeting planners, 527-9411. Info: (303) 402-1111.

Horwath Mortgage and Jefferson Association of Realtors, free first-time buyer seminar, 5:30-9:30 p.m., Wadsworth Blvd. Reservations: 303-733-1111 or Faye (303) 399-3178.

World Trade Center Denver, Introduction to World Trade Center, 1625 Broadway, Suite 1600, members: \$125 nonmembers: \$192. 5757.

Benchmark Coaching Inc., coaching seminar, 7:00-9:00 p.m., Mile 16 Church Center, 9277 W. Alameda Ave. Info: (303) 789-4014.

Denver Hispanic Chamber of Commerce Spanish leads group, 8:00 a.m., Business Plaza, 930 W. Colfax Ave.



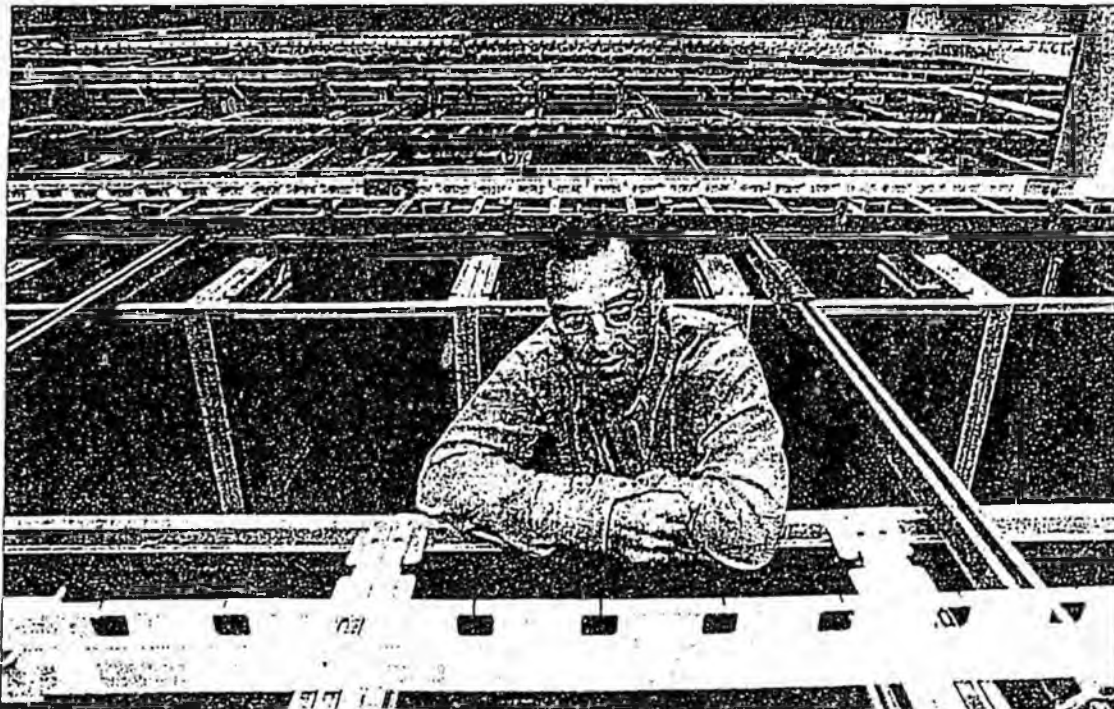
Mile HighTech

MONDAY • AUGUST 28 • 2000

WIRED for GROWTH



From left, Nupremis employees Steve Gaines, Karl Niemann and Jeff Baer monitor the company's network at the Nupremis network operations center in Boulder. Nupremis announced plans last month to open 20 data centers globally by the end of 2001.



David Gandini, FirstWorld Communications' chief operating officer, stands in the Arapahoe County company's collocation center. "There are a lot of companies that have made statements about building and going forward, but we still feel there is a tremendous shortage of data center space across the country today," he says.

Data centers proliferate as companies try to meet mushrooming demand for Internet services.

By Krita Hudson
News Staff Writer

Chuck Cadle peered through the bulletproof glass that separated him from the sterile, white room filled with an armada of black, refrigerator-sized computer cabinets.

Cadle, chief executive officer of Boulder's Nupremis Inc., is not allowed inside. Only a few of the company's technicians are allowed to enter the data center to tend to its equipment and the vast network of cables and wires.

Data centers are the present and future of the Internet. They're high-powered, highly secure data havens where Internet companies can power their online operations without fear of disruption. They're

also big business, representing a multibillion-dollar industry that has attracted some of high-tech's biggest names and several Colorado upstarts like Nupremis.

"It's the Fort Knox of data centers," Cadle said, standing outside Nupremis' data center Friday. "If you've got a mission-critical application, you don't want it to go down. You want it to be highly reliable . . . and secure."

A card-scanner system allows only authorized workers into the data center. Its 68 cabinets — stocked with Compaq servers and data-storage devices connected by an intricate web of cables snaking below the room's raised floor and suspended from its ceiling — are kept in a temperature- and humidity-

suppression system is programmed to snuff out any flicker of flame.

Equally secure is the Nupremis network operations center, where a few technicians monitor the company's network on screens stacked three high and 12 across. If something goes wrong or a system nears capacity in this data center or any of the eight Nupremis plans to open this year, workers will know instantly. In addition to the standard firewall safeguards, the company is installing intrusion-detection software to thwart hackers.

This is what it takes to house customers' Web operations in the digital economy, where the flow of data is a lifeblood and downtime is a slow death.

Study rates countries' high-tech readiness

In key areas, even some major powers don't foster expansion

By D. Ian Hopper
Associated Press

WASHINGTON — Many countries are a long way from having the infrastructure to support technology companies, and economic expansion will stagnate without necessary improvements, according to a report released last week.

The report, prepared by officials responsible for worldwide Y2K readiness last year, rates 43 nations in the areas of connectivity, technological leadership, information security, worker training and business climate. Twenty-three, including China, Russia and South Africa, require substantial improvement in at least two areas before technology companies and governmental tech efforts can flourish.

"The networked world is under construction," said Bruce W. McConnell, head of McConnell International LLC, a technology consulting firm. "Smart companies will get in on the ground floor, but they should wear hard hats. The foundations are still unfinished. Many countries have not yet created the conditions that permit full participation in the digital economy."

McConnell and the firm's other owner, Roslyn Dockter, led the International Y2K Cooperation Center's global Y2K readiness effort.

Estonia and Taiwan have the best ratings among all countries. Both have high ratings in governmental leadership, worker training and business climate.

Central and Southern Europe — such as Bulgaria, the Czech Republic, Italy and Hungary — are the best-rated regions in the report.

Nations there were found to have skilled and educated workers, legal protections and computer security laws that are more advanced than in many other regions.

Also, the report said,

See DATA CENTERS on 8B

See READINESS on 12B

Shakeout predicted in fast-growing industry

DATA CENTER from 1D

"It's really the maturation of the Web," said Karl Niemann, the company's director of network operations. "It's moved from an ad hoc thing to something you run your business on. And when you run your business on it, you need reliability and availability."

Several types of data centers exist. One version, often called a collocation facility or gateway, is set up by major telecommunications carriers to serve as a center where Internet companies can gain access to the carriers' international networks. Typically, the carrier provides little beyond floor space and network access, relying on other companies to meet customers' additional needs.

A traditional data center offers more services than a collocation facility. A data-center operator often will lease such equipment as servers and storage devices to customers. Some even resell enterprise software systems in a pay-as-you-go format known as application service provision.

In short, data center operators act as a one-stop shop for customers, providing network access from several carriers, on-demand software and information-technology support. And then there's a confusing twist: Data centers can be set up inside collocation facilities.

The former is more lucrative than the latter. Boston-based market research firm The Yankee Group reports that carriers receive average monthly revenue of \$50 per square foot for bare-bones collocation services. In contrast, data-center operators charge an average of \$1,000 per square foot monthly for the numerous services they offer in addition to floor space and network access. For broad, complex offer-

ings, that figure can climb to \$10,000 per square foot.

Analysts predict that, sooner rather than later, collocation services will become a commodity as the supply of data center space catches up with the demand, and only the data-center operators that provide additional services will make money.

"Delivering quality of service at a reasonable price is going to be big," said David Tapper, an analyst with research firm IDC.

All told, Yankee Group values the broader market of "netsourcing" — which includes the outsourcing of Web hosting, network, integration and support services — at \$9.1 billion this year, growing to \$16.7 billion by 2003.

Thus, it's not hard to see why so many companies have entered the data-center market. The major players include well-known names such as Exodus Communications, Intel Corp., EDS, Hewlett-Packard Co., Level 3 Communications and partnerships of AT&T Corp., British Telecom and Quest-IBM.

The industry has a strong foothold in Colorado, where at least seven companies operate some form of data center for use by Internet companies. Level 3 and Qwest are among the largest collocation providers. Arapahoe County-based Verio Inc. hosts more than 400,000 Web sites at its centers. FirstWorld Communications and InFlow Inc. operate several data centers and intend to open more. And this year, two new companies — Nupremis and Relera — have announced plans to open dozens of data centers.

"Right now, the market is so open. There's so much opportunity," said Dave Gandim, chief operating officer of Arapahoe County-based FirstWorld. "There



Chief Executive Officer Eric Hood, left, and Chief Operating Officer Ron Cooper of Relera relax in their Arapahoe County office. The startup announced this month that it will open 25 data centers in the next 18 months.

are a lot of companies that have made statements about building and going forward, but we still feel there is a tremendous shortage of data center space across the country today."

Backed by Denver financier Donald Sturm, FirstWorld operates eight data centers and plans to open two more by October. The company offers its customers network access provided by multiple carriers, third-party software, third-party data storage and add-on services, including remote monitoring. FirstWorld executives say the company holds an advantage over industry newcomers because it already has several data centers.

However, FirstWorld has problems. Last month, the company told investors its revenue

and margins for the balance of the year will fall below predicted levels because of slow sales and high costs. Along with the financial shortfall, FirstWorld announced the resignation of Chief Executive Officer Sheldon Ohlinger. The company intends to right itself by divesting auxiliary businesses to focus on its data centers.

Even so, FirstWorld's stock plummeted, and the company became the target of numerous shareholder lawsuits, which it says are groundless.

"We feel extremely comfortable and very excited about the business we're in," Gandim said. "We are focused around the business in which we will be successful. Don Sturm is committed to the business. We have the right partnerships in place."

InFlow, founded in 1997 by two Air Force Academy graduates, operates 11 data centers. The company provides data center space, network access and information-technology services. Like FirstWorld, InFlow specializes in serving small and medium-sized businesses.

In the past 16 months, InFlow has raised \$225 million in venture financing to fuel its expansion. The company filed in February to sell its stock to the public but has not begun doing so.

Relera burst onto the scene this month with the announcement it will open 25 data centers in the next 18 months. Launched earlier this year, the startup has generated significant momentum. It is led by Chief Executive Officer Eric Hood, former vice president for engineering and operations at Verio, and chief operating officer Ron Cooper, former chief operating officer of Medial Inc.

In the past six months, Relera has collected \$100 million in venture financing from Denver-based Telecom Partners, Navis Partners, Columbia Capital Partners, Bank of America Capital Partners, Crescendo Ventures, CIBC, Broadband Venture Partners and Morgan Stanley Dean Witter. And last week, Relera unveiled plans to open data centers in 11 level 3 collocation facilities.

Arapahoe County-based Relera intends to offer data center space, network access from multiple suppliers and IT support. The company will not provide servers or software.

"The watchword in business today is speed to market," Cooper said. "And we help our customers achieve their speed-to-market goals by providing the infrastructure and services they need but that they have to develop themselves."

Nupremis announced its plans last month to open 20

data centers globally by the end of 2001. The 8-month-old company is a "roll-up" of Boulder e-business integrator Centra, Hungarian application service provider InterWave and wireless local network company NewEraCom. The three were bought and combined by Callahan Associates, the Denver telecom development firm led by former U.S. West executive Dick Callahan.

Armed with \$33 million in venture financing and soon to add \$75 million in debt financing, Nupremis intends to open its data centers at collocation sites of several telecom carriers. It has opened data centers at its own sites in Boulder and Budapest, Hungary.

Nupremis intends to serve medium-sized and large businesses. The company offers use of its data center space, Compaq hardware, Oracle software and its own IT services.

With so many new entrants joining the party, even a fast-growing market is bound to get crowded. "The Yankee Group predicts an eventual shakeout."

"There are a lot of startups in this market," Yankee Group analyst Joanna Makris said. "We don't think all of the startups are going to thrive in the long term. We expect to see acquisitions of the specialist companies take place. Anyone that has a new and unique spin on hosting or focuses on a specific space, and is good at it is going to be an acquisition target."

"And the other thing is that so many people are building out data centers that we don't think the market can support all of that space," she said. "The pricing is already demonstrating a normalization."

Contact Bill Mutton at 11011 892-5155 or budmutton@RockyMountainNews.com

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To: Mike Caskey
 Co.
 Dept: 17/27/2000 USA Today
 Fax #

From: Tim Jackson
 Co.
 Phone #
 Fax #

Business travel

By David Field

TWO: Southwest adds a daily non-stop April 1 between Chicago Midway and Fort Lauderdale, for a total of two daily and one between Midway and Las Vegas, for three a day.

Doubles: TWA will give double Aviators frequent flier miles Jan. 31-April 1 on three flights starting Jan. 31 between Miami and San Juan Puer to Rico. Register for offer: 01642 at 800-325-4815 or at

Plan: Delta will begin daily non-stops between Atlanta Hartsfield and Buenos Aires, Argentina, in April.

In comparison to last October, an average one-way airplane ticket in first class increased about \$25:

\$237.33 Oct. 1999	\$262.19 Oct. 2000
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Source: Air Transport Association
 by Paul Tan, USA TODAY

twa.com.

Triples: Thrifty offers triple the usual 50 miles per rental day to Alaska Airlines Mileage Plan members Jan. 1-April 1. Two-day minimum, 14-day maximum rental.

Growth: Ten-month-old JetBlue carried its 11 millionth passenger Thursday.

WHEN DID THE FIRST MANNED HOT-AIR BALLOON FLIGHT TAKE PLACE?



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More power! Tech firms act to avoid blackouts

Steps include backup generators, building substations

By Edward Iwata
 USA TODAY

PALO ALTO, Calif. — As California's power crisis worsens, high-tech firms in Silicon Valley are taking steps to defend themselves against potentially devastating blackouts.

"Electricity is the oxygen of Silicon Valley," says Karl Stahlkopf, vice president at the Electric Power Research Institute in Palo Alto.

"This year, state authorities have declared energy alerts on a record 62 days. California declares alerts when power

reserves fall dangerously below 7% of the state's capacity. To stave off energy outages and emergencies:

▶ About 200 Silicon Valley firms, from Intel to eBay, have agreed with utilities to voluntarily cut their energy use 10% or more during "rolling blackouts" imposed by utilities to lighten the load on the state's electrical system. This season, there have not been rolling blackouts. If there were, the tech firms would save up to 400 megawatts of energy — the equivalent of 400,000 households.

In return, the companies get rate discounts of 10% to 20% all year. Or they drop lower on the list of customers who may lose power during mandatory blackouts. "They can take more control over their destiny," says spokesman Larry O'Connell of the Silicon Valley Power

▶ Virtually every high-tech firm and

chipmaking plant has backup generators to keep safety and office equipment running. Oracle recently built a \$6 million substation to power its corporate offices in case of disaster.

▶ Learning from earthquakes and last year's Y2K scare, chipmaker LSI Logic has a "SWAT team" of managers and security people ready to jump on emergencies. They can communicate worldwide via shortwave radios and satellite phones, spokesman Kevin Brett says.

California had its first-ever statewide Stage 3 alert Dec. 7. In Stage 3, the severest warning, power may be cut to any customer at any time. In Stage 2, power may be cut to large business customers. During Stage 1, customers are asked to reduce electricity use.

In June, record-heat waves and overheated transmission lines led energy officials to curtail power to parts of the

San Francisco Bay Area for several days. About 100,000 business and residential customers lost power for an hour or two each time.

Silicon Valley firms suffered \$100 million in lost production during the outages, says spokeswoman Michelle Montague-Bruno of the Silicon Valley Manufacturers Association.

Tech firms need more power than others because they run huge data-processing rooms, chipmaking plants and research labs. Electricity demand in Silicon Valley grew 12% last year; the statewide average was 3%, Stahlkopf says.

If the government and utilities don't start building a new electrical infrastructure in the next five years, Stahlkopf says, the crisis will spread.

▶ Bush pushes for more on...

MDU Resources Group, Inc.

2000 ANNUAL REPORT

The natural gas to generate your electricity

The lines that deliver your energy

Bridges leading to your destination

focused growth

Energy to heat your water

Fuel to warm your home

Lines connecting you to the world

The street beneath your feet

Electricity to light your home

MDU Resources Group, Inc.

Inside Front Cover:
Business Segment Profile

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MDU Resources Group, Inc. provides energy, value-added natural resource products and related services that are essential to our country's energy, transportation and communication infrastructure.

MDU Resources includes electric and natural gas utilities, a natural gas pipeline, utility services, natural gas and oil production, construction materials and mining, and energy services.

Our Vision:

With integrity, create superior shareholder value by expanding upon our expertise to be the supplier of choice in all of our markets while being a great place to work.

Our Mission:

Provide value-added natural resource products and related services that exceed customer expectations.

To achieve this mission we will be guided by commitments to:

Customers Provide high quality, cost-effective products and services.

Stockholders Produce a superior total return.

Community Recognize our responsibility to be an effective corporate citizen.

Environment Minimize waste and maximize resources.

Ethics Conduct business with integrity and with respect for all.

Employees Develop individual potential and teamwork to maintain employees as our ongoing source of competitive advantage.

On the Cover:

Building upon our expertise has been a long-held principle of our focused growth strategy. Today we provide people throughout America with conveniences and necessities that make their lives better. MDU Resources designs, builds, maintains and operates facilities that are part of our country's modern infrastructure.

The company reflects a multi-dimensional enterprise: regulated and nonregulated businesses operating in different geographic locations and selling a broad spectrum of high-quality products and services. As our company has grown, so too has our commitment to improve customer service and provide a superior rate of return to stockholders.

Visit www.mdu.com for updated financial and operating information.

MDU Resources Group, Inc.

2000 ANNUAL REPORT

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Highlights

Revenues

(Dollars in millions)



Revenues have nearly quadrupled since 1996.

2000 Earnings by Business Segment



- 16% Electric
- 4% Natural gas distribution
- 8% Utility services
- 10% Pipeline and energy services
- 35% Natural gas and oil production
- 27% Construction materials and mining

Six lines of business include regulated and nonregulated earnings.

Dividends

(Dollars per common share)



Dividends have increased 17 percent since 1996.

Years ended December 31, (In millions, where applicable)			Increase/Decrease	
	2000	1999	Amount	Percent
Operating revenues:				
Electric	\$ 161.6	\$ 154.9	\$ 6.7	4
Natural gas distribution	233.1	157.7	75.4	48
Utility services	169.4	99.9	69.5	70
Pipeline and energy services	636.8	383.5	253.3	66
Natural gas and oil production	138.3	78.4	59.9	76
Construction materials and mining	631.4	469.9	161.5	34
Intersegment eliminations	(96.9)	(64.5)	(32.4)	(50)
Total	\$1,873.7	\$1,279.8	\$593.9	46
Operating income:				
Electric	\$ 38.8	\$ 35.7	\$ 3.1	8
Natural gas distribution	9.5	6.7	2.8	42
Utility services	16.6	11.5	5.1	44
Pipeline and energy services	28.8	40.6	(11.8)	(29)
Natural gas and oil production	66.5	26.9	39.6	148
Construction materials and mining	56.8	38.4	18.4	48
Total	\$ 217.0	\$ 159.8	\$ 57.2	36
Earnings on common stock:				
Electric	\$ 17.7	\$ 16.0	\$ 1.7	11
Natural gas distribution	4.3	3.2	1.6	49
Utility services	8.6	6.5	2.1	32
Pipeline and energy services	10.5	21.0	(10.5)	(50)
Natural gas and oil production	38.6	16.2	22.4	138
Construction materials and mining	30.1	20.4	9.7	47
Total	\$ 110.3	\$ 83.3	\$ 27.0	32
Earnings per common share:				
Basic	\$ 1.80	\$ 1.53	\$.27	18
Diluted	\$ 1.80	\$ 1.52	\$.28	18
Dividends per common share				
	\$.86	\$.82	\$.04	5
Weighted average common shares				
outstanding — diluted	61.4	54.9	6.5	12
Total assets	\$2,313.0	\$1,766.3	\$546.7	31
Total equity	\$ 896.1	\$ 684.5	\$211.6	31
Net long-term debt	\$ 728.2	\$ 563.5	\$164.7	29
Capitalization ratios:				
Common equity	54%	54%		
Preferred stocks	1	1		
Long-term debt	45	45		
	100%	100%		
Return on average common equity	14.3%	13.9%		
Price/earnings ratio	18.1x	13.2x		
Book value per common share	\$ 13.55	\$ 11.74		
Market value as a percent of book value	239.9%	170.4%		
Full-time employees	4,087	3,791		

NOTE: Common stock share amounts reflect the company's three-for-two common stock split effected in July 1998.

This Annual Report contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934. Forward-looking statements should be read with the cautionary statements and important factors included in Management's Discussion and Analysis - Safe Harbor for Forward-looking Statements. Forward-looking statements are all statements other than statements of historical fact, including without limitation, those statements that are identified by the words *anticipates, estimates, expects, intends, plans, predicts* and similar expressions.

focused growth



Martin A. White, Chairman of the Board, President and Chief Executive Officer

Report to Stockholders

GROWTH IS VITAL TO MDU RESOURCES. WE ARE SELLING MORE. WE ARE SERVING MORE CUSTOMERS. OUR GROWTH IN REVENUES, EARNINGS AND EARNINGS PER COMMON SHARE PROVE THAT OUR FOCUSED GROWTH CREATES SUPERIOR SHAREHOLDER VALUE.

We achieved an outstanding 68 percent annual total return on common stock in 2000! That's better than the Standard & Poor's Electric Utility Index and the Standard & Poor's 500 Index. For the past five years, MDU Resources produced a 24 percent compound annual total return on common stock. This compares to 17 percent for the Standard & Poor's Electric Utility Index and 18 percent for the Standard & Poor's 500 Index.

The MDU Resources Board of Directors recognized this growth by increasing the dividend by 5 percent at its August 2000 meeting. This is the tenth consecutive year the company has increased dividends. MDU Resources continues its unbroken record of consecutive quarterly dividend payments dating back to 1937.

Total corporate revenues reached \$1.9 billion, up 46 percent from the preceding year. Earnings were \$110.3 million, up 32 percent over the prior year. Earnings per common share, diluted, were \$1.80, compared to \$1.52 a year ago.

MDU Resources reached \$2 billion in market capitalization in 2000. This is remarkable because the company had first reached market capitalization of \$1 billion in 1998, just two years ago.

Better Positioned for Future Competition

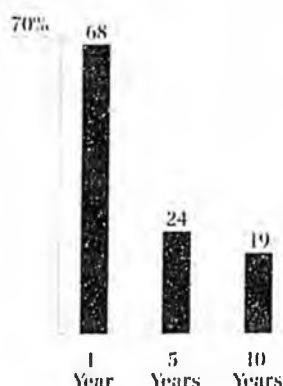
These statistics only begin to define the accomplishments of 2000. Every line of business strengthened its respective market position. Six business segments include regulated and nonregulated earnings for MDU Resources. A significant portion of the company's earnings come from energy-related products and services.

Earnings increased in 2000 because of our dedicated, hardworking, innovative team of employees. This was accomplished by the use of our growing purchasing power, investment in technology and our efficient use of equipment. We were successful in completing 20 acquisitions – which is more than any year in our history. Today we are stronger and better prepared to compete than ever before.

Building From a Platform of Success

Our focused growth strategy follows a disciplined approach. Our focus on natural gas benefited our shareholders as demand for this environmentally friendly fuel is pushing prices to record levels. Our natural gas and oil production segment is committed to increasing earnings and helping to solve our nation's supply challenges.

Annual Total Return
(Percent)



Market appreciation and dividends provided outstanding annual total returns on common stock.

We have an established position in the coal bed natural gas fields in the Powder River Basin of Wyoming and Montana. This provides our natural gas and oil production segment with additional reserve potential of low-cost coal bed natural gas. In addition, we continue enhancing production from our existing gas fields in Colorado and Montana. Our strong reserve position, both onshore and offshore in the Gulf of Mexico, provides this group a large geographic base upon which to expand.

Our natural gas and oil production last year reached an all-time high of 40.5 billion cubic feet equivalent. Our year-end proved reserves of over 400 Bcfe set the stage for our natural gas and oil production segment to continue making major contributions to MDU Resources' earnings. WBI Holdings - which includes both the pipeline and energy services and the natural gas and oil production businesses - reached earnings of \$49.1 million in 2000. This amount exceeds MDU Resources' total earnings of just four years ago.

Since 1992, our construction materials and mining business has continued to expand. This segment's revenues reached \$631.4 million, a 34 percent increase, while earnings increased 47 percent to \$30.1 million. The federal government's commitment to improve the nation's highway system, the

economic and geographic diversity of our markets and our strong position in those markets with 895 million tons of strategically located aggregate reserves provide a solid foundation as this business continues to grow. Future revenues and earnings are expected to increase because of acquisitions, operational synergies and market expansion.

Utility services had an excellent year, increasing earnings by 32 percent while expanding its market position and becoming a national player in this industry. Our utility services growth strategy is built upon the continued outsourcing of services in the utility industry, the replacement of transmission and distribution lines and the demand for fiber optic cable installation.

The addition of the Wagner-Smith companies, based in Ohio, increased the services available to our growing customer base. In addition to the traditional line building services, this company is a diversified electrical contractor in the industrial, utility, institutional and government markets. They also manufacture, rent and sell equipment. In early January 2001, we acquired the Capital Electric companies, which further broadens our geographic scope and complements existing utility services companies. These companies also provide electric refurbishing and new wiring services to

Market Capitalization

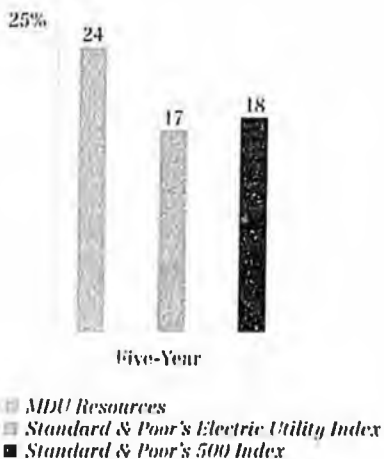
(Dollars in billions at December 31)



Market capitalization reached significant milestones of \$500 million, \$1 billion and \$2 billion during the past eight years.

Annual Total Return Comparison

(Percent)



MDU Resources' annual total return outpaced two major indexes for the past five years.

power plants. This is an important addition to utility services given that the need for new generation in America is estimated to be 10,000 megawatts per year until 2008.

Our public utility division continued its strong performance by providing natural gas and electricity to customers in the Northern Great Plains. Responding to above normal temperatures during the summer, our sales of electricity to wholesale customers provided the utility with greater margins. The acquisition of Great Plains Natural Gas Co. brought approximately 22,000 customers in southeastern North Dakota and western Minnesota to our utility.

The return of colder than normal weather in November and December 2000 created significantly higher natural gas commodity prices, which created challenges for many of our utility's natural gas customers. All the natural gas supplied to our utility customers is purchased in the open market and

passed through, at cost, to our customers. Neither of our natural gas utilities benefit from high gas prices. Our utility profits are affected by volume throughput only, which is probably negatively affected as significant price increases affect demand.

We are proud, however, that our customers still buy electricity and natural gas at some of the lowest prices in America without disruption of service as is being experienced elsewhere in the country. Our employees have worked diligently to provide the highest quality service while working with our customers during this difficult time, which we hope, in some small measure, softens the effect of these high bills.

I want to personally thank the employees for their part in our great performance, our customers for their continued use of our products and services and our shareholders for their loyalty. Together you made 2000 a great year at MDU Resources. 2001 has the potential to be even better.

I would also be remiss if I didn't express my appreciation to the MDU Resources Board of Directors for electing me to the position of Chairman of the Board. I feel honored that they have shown confidence in me as the leader of this great company. I would like to thank John A. Schuchart, our retired Chairman of the Board, for his years of dedication to the company.

Martin A. White
Chairman of the Board, President and Chief Executive Officer
February 19, 2001

JOHN A. (JACK) SCHUCHART RETIRED AS MDU RESOURCES' CHAIRMAN OF THE BOARD JANUARY 12, 2001, HIS 25TH ANNIVERSARY WITH THE COMPANY. HE IS THE FOURTH PERSON TO SERVE AS CHAIRMAN, AND THE FIRST NONMEMBER OF THE COMPANY'S FOUNDING FAMILY TO HOLD THE POSITION.

a tribute

Jack joined MDU Resources in 1976 as financial vice president and treasurer. He was also named a director. Two years later, he was named president. In 1980, he became the chief executive officer and was elected chairman of the board in 1983. During his tenure, he also held leadership positions with various industry organizations. Prior to joining the company, Mr. Schuchart held managerial and executive positions with two other natural gas companies. At the conclusion of his career, Jack shared his thoughts on MDU Resources.

How has MDU Resources changed in the past 25 years?

Essentially, we were in one line of business 25 years ago. The company was known as Montana-Dakota Utilities Co. It was a combination electric and natural gas utility. We also had a coal company and some income from our oil interests, but they were viewed as incidental to the utility business. We employed about 1,800 people in our operations in five states. From a financial standpoint, we had 2.4 million shares outstanding in 1975; today we have 65 million shares. Reported revenues in 1975 were \$86.5 million. Our revenues in 2000 were nearly \$2 billion and our earnings of \$110 million exceed the 1975 revenues!

What significant events changed the company?

The seed for change had been planted from the time I was recruited. The board of directors supported me in a plan to reshape the company.

The underlying reason was this...we had numerous assets that were undervalued and underperforming. It was our vision to realign the corporation to take full advantage of these assets.

The first significant event happened in 1977 when we held an unprecedented bondholders meeting and successfully changed our mortgage. That meeting was essential to financing the activities that would grow our company.

A second significant event occurred in 1985 when we successfully launched Williston Basin Interstate Pipeline Company. In addition, we capitalized on other properties, principally developing our natural gas fields. Concurrent with this strategy, we sought to realign our mining business and our oil interests with leadership teams at each. They were charged with growing their businesses in ways that would enhance shareholder value. At that time we also established MDU Resources Group, Inc. as the parent company.

What are the strengths upon which this company can continue to build?

MDU Resources has two principal strengths. The first and foremost is the people. Their ingenuity, willingness and abilities are our greatest strengths. Secondly, we are financially strong. Our financial strength and our very capable employees give us an unbeatable combination as we grow our company.



JOHN A. (JACK) SCHUCHART RETIRED AS MDU RESOURCES' CHAIRMAN OF THE BOARD JANUARY 12, 2001, HIS 25TH ANNIVERSARY WITH THE COMPANY. HE IS THE FOURTH PERSON TO SERVE AS CHAIRMAN, AND THE FIRST NONMEMBER OF THE COMPANY'S FOUNDING FAMILY TO HOLD THE POSITION.



Jack joined MDU Resources in 1976 as financial vice president and treasurer. He was also named a director. Two years later, he was named president. In 1980, he became the chief executive officer and was elected chairman of the board in 1983. During his tenure, he also held leadership positions with various industry organizations. Prior to joining the company, Mr. Schuchart held managerial and executive positions with two other natural gas companies. At the conclusion of his career, Jack shared his thoughts on MDU Resources.

How has MDU Resources changed in the past 25 years?

Essentially, we were in one line of business 25 years ago. The company was known as Montana-Dakota Utilities Co. It was a combination electric and natural gas utility. We also had a coal company and some income from our oil interests, but they were viewed as incidental to the utility business. We employed about 1,800 people in our operations in five states. From a financial standpoint, we had 2.4 million shares outstanding in 1975; today we have 65 million shares. Reported revenues in 1975 were \$86.5 million. Our revenues in 2000 were nearly \$2 billion and our earnings of \$110 million exceed the 1975 revenues!

What significant events changed the company?

The seed for change had been planted from the time I was recruited. The board of directors supported me in a plan to reshape the company.

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What are the strengths upon which this company can continue to build?

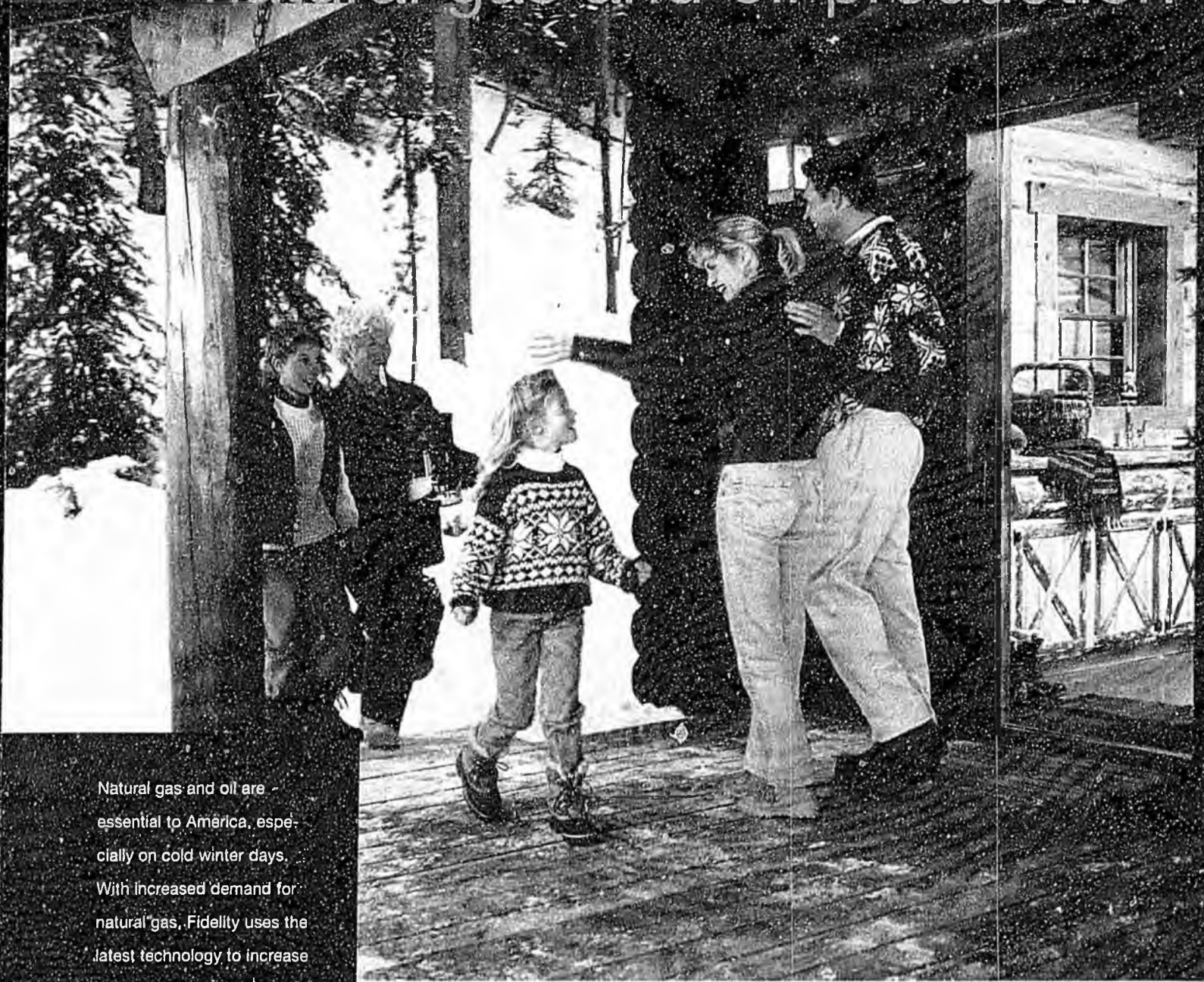
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The fuel to warm your home

GENERATING STRONG AND CONSISTENT GROWTH IN RESERVES, PRODUCTION, CASH FLOW AND EARNINGS LIE AT THE HEART OF FIDELTY'S BUSINESS STRATEGY. WITH DEMAND INCREASING FOR CLEAN-BURNING NATURAL GAS, PRODUCTION OF THIS VALUABLE FUEL ALONG WITH ACCUMULATING RESERVES IS A SOUND STRATEGY FOR ACHIEVING FOCUSED GROWTH. COMBINING ALL OF THE CORPORATION'S EXPLORATION AND PRODUCTION ASSETS HAS PRODUCED AN EFFECTIVE, WELL-MANAGED GROWTH VEHICLE WITH THE SIZE, ABILITY AND FOCUS TO CONTINUE AND EXPAND ITS ROLE IN THE CREATION OF SHAREHOLDER VALUE.

natural gas and oil production



Natural gas and oil are essential to America, especially on cold winter days. With increased demand for natural gas, Fidelity uses the latest technology to increase reserves and production of this environmentally friendly fuel.

Fidelity's Jeff Weber is a geophysicist. He uses his technical expertise to find profitable accumulations of natural gas and oil.



The natural gas to generate your electricity

Expanding Resources

Natural gas and oil production grew from 35 Befe in 1999 to 41 Befe, a 15 percent increase in 2000. During the same period our proven reserve base increased 12 percent from 357 Befe to 400 Befe, 77 percent of which is comprised of natural gas. Both production volumes and reserves set new company records. These gains, combined with the current robust price environment, resulted in record earnings and a significant increase in the value of our natural gas and oil properties. Our foundation properties, the large natural gas fields in Montana, continue to provide reliable, long-lived, low-cost natural gas production while our properties in the Mid-continent and the Gulf Coast regions add impressive cash flow and growth through discovery and development. In 2001, management is committed to a goal of further increasing production by 30 to 40 percent.

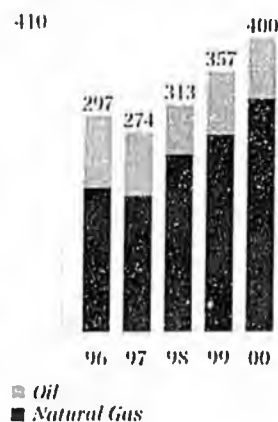
Coal Bed Natural Gas

The April 2000 acquisition of coal bed natural gas development properties in the Powder River Basin of Wyoming and Montana has placed us at the heart of the most active gas development play in North America. Our net lease position exceeds 210,000 acres and features rapidly increasing production and over 5,000 potential well locations. The addition of these exciting assets to our traditional portfolio of properties emphasizes the company's commitment to aggressive growth through the use of emerging technologies to foster profitable growth in our traditional business.

Fidelity's timely expansion of its exploration and operational capabilities has allowed us to complete the largest and most diverse drilling program in company history. The company drilled more than 450 wells, the vast majority of which were 100 percent company-owned and operated. Management expects this trend to continue in 2001 with the projected drilling program including over 500 wells. This level of activity and success underscores Fidelity's commitment to meet the challenges of our changing industry through the continued use of a focused strategy and innovation.

To manage price volatility, Fidelity employs commodity hedging techniques as part of an overall risk management plan. Other components of this plan include a disciplined acquisition strategy that seeks a balance of both producing properties and exploratory ventures.

Natural Gas and Oil Reserves
(Bcf equivalents)



Natural gas and oil reserves have grown 35 percent since 1996.



BASED ON REVENUES, OUR CONSTRUCTION MATERIALS AND MINING OPERATIONS WOULD RANK AS ONE OF THE NATION'S 10 LARGEST PUBLICLY TRADED COMPANIES IN THE INDUSTRY. WE'VE UTILIZED OUR EXTENSIVE CONSTRUCTION MATERIALS EXPERIENCE TO GROW. THIS FOCUSED GROWTH IS EXPECTED TO CONTINUE THROUGH FURTHER ACQUISITIONS AND BY OPTIMIZING SYNERGIES AT EXISTING OPERATIONS. BY IMPLEMENTING ADVANCED TECHNOLOGY, MAXIMIZING ASSETS AND CONSOLIDATING PURCHASING, ADMINISTRATIVE AND OTHER FUNCTIONS, THE COMPANY'S GOAL IS TO INCREASE EARNINGS.

construction materials and mining

A new cement terminal (above) in Hawaii, which will begin operating in 2001, will increase operational efficiencies. We are a large cement and ready-mixed concrete supplier in the islands. Cement is also a basic ingredient in materials produced at other company operations. Bob Knorr of Morse Bros. markets concrete use in building projects.



...the way around you

The concrete for



Growth Potential

Demand for aggregates and related construction materials in the western United States is projected to increase due to population growth and the nation's commitment to improve its highway system. States where Knife River operates are benefiting from the federal Transportation Equity Act for the 21st century. The Act, which authorizes federal dollars for highway programs through 2003, is the largest public works legislation in our nation's history. It authorizes over \$170 billion for highway construction programs for the six fiscal years 1998 to 2003. This represents an average increase in federal funding of approximately 48 percent to improve the nation's highways.

In addition, management expects to accelerate earnings growth through further acquisitions and by optimizing synergies at existing operations. Leveraging its size, the company has been able to realize synergies in the areas of purchasing, insurance, cash management and capital financing to provide earnings growth. Other synergies include sharing operational expertise and specialized equipment. A focus on marketing and customer service is also expected to enhance earnings.

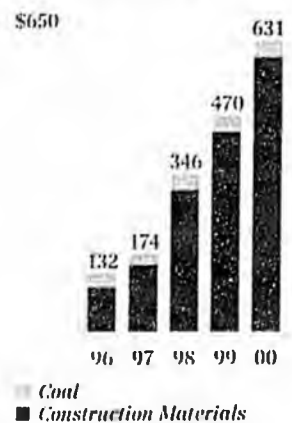
Over the past five years, construction materials and mining earnings have nearly tripled. This segment expects to achieve compound annual revenue and earnings growth rates of approximately 10 to 20 percent over the next five years.

Operational Highlights

Existing construction materials operations provide the company with geographic and product diversity. This diversity provides the opportunity to maximize cash flows and earnings. The company set new sales volume records for aggregates and ready-mixed concrete. When compared to 1999 levels, aggregate sales volumes increased by 31 percent and ready-mixed concrete sales volumes increased by 43 percent.

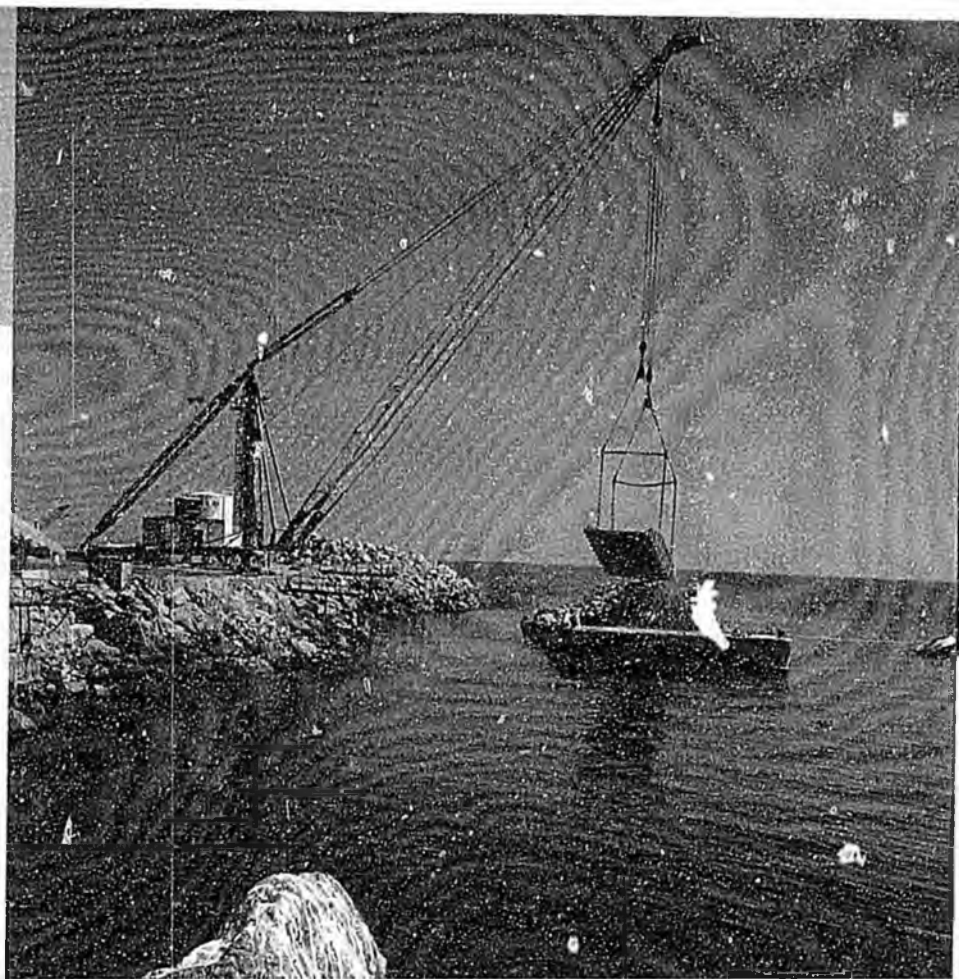
David Barney leads a team that provides aggregates and ready-mixed concrete in the Lodi-Stockton, California, market area.

Construction Materials and Mining Revenues
(Dollars in millions)



Revenues reflect the growth experienced by construction materials and mining operations.

A quarry on Catalina Island provides Connolly-Pacific with the aggregate resource used to build and repair breakwaters and piers. Acquired in May 2000, Connolly-Pacific performs marine construction primarily in the Ports of Long Beach and Los Angeles, the two busiest ports on the West Coast.



- Management has implemented a multi-year program known as operational excellence to systematically make improvements in four key areas – financial performance, customer satisfaction, internal business processes and employee development. This program's goals are to improve the competitive position of the construction materials operation within the industry and achieve the vision to be the supplier of choice.

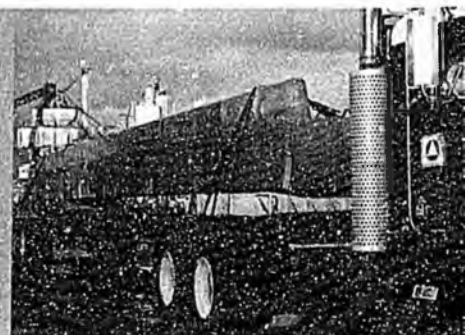
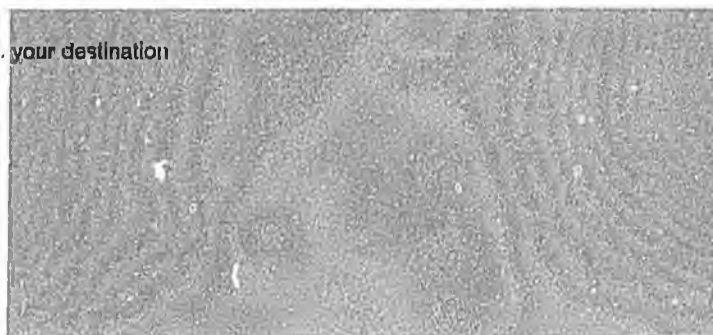
Acquisition Strategy

Management expects to continue to acquire companies that either complement existing operations or create growth opportunities in new geographic locations. Knife River added 10 companies in 2000 that enhanced existing operations. In addition, the company acquired Connolly-Pacific Co., an aggregate mining and marine construction company operating in the coastal area of Southern California.

Connolly-Pacific is an established company and complements our other construction materials operations by providing a new geographic location and additional services. The company specializes in furnishing and placing rock used in marine construction. The market for these products extends from the Santa Barbara area in the north to San Diego in the south.

beneath your feet

Bridges leading to your destination



Pre-stressed concrete is produced for use in buildings, bridges and other construction projects.

As a result of these acquisitions, the company now owns or leases 895 million tons of economically recoverable aggregate reserves. These reserves are strategically located and represent more than a 40-year supply at current consumption levels.

The construction materials and mining segment will adhere to its focused growth strategy of targeting profitable, environmentally sound companies with ample reserves, significant market presence in growth areas and seasoned management teams.

Coal Operations

On September 28, 2000, the company announced an agreement to sell its coal operations. The sale is subject to various closing conditions and will not be finalized unless and until the parties are satisfied that those conditions have been met. With rapid expansion of the construction materials operations, earnings from coal operations would normally be expected to contribute less than 10 percent of annual earnings of the construction materials and mining segment.

The competitive posture of Knife River's operations is enhanced by fleet managers, such as Jeff Taylor, and the company's equipment purchasing power.

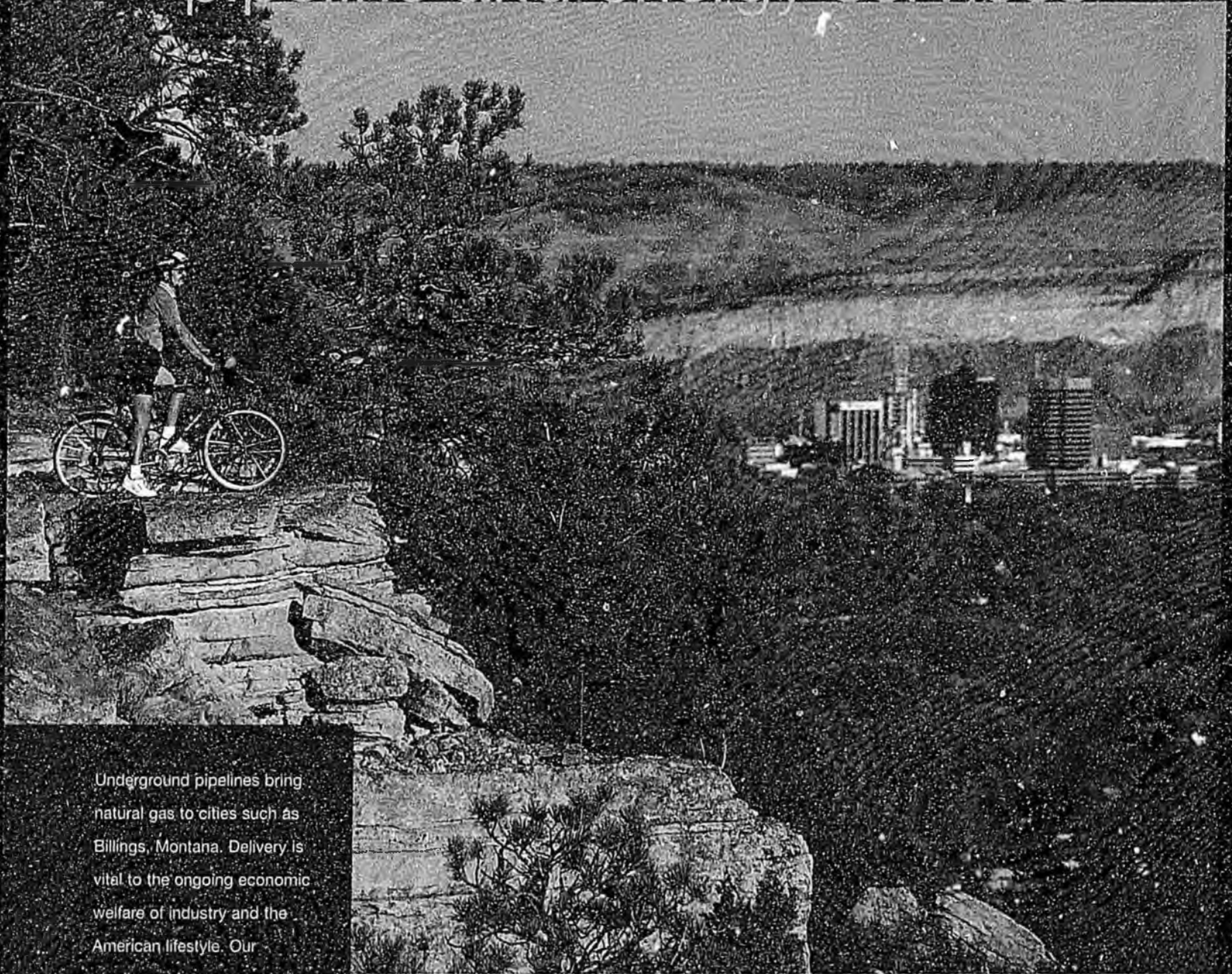




Bringing natural gas to

PROVIDING EXEMPLARY CUSTOMER SERVICE IS THE CORE STRATEGY AT OUR PIPELINE AND ENERGY SERVICES UNIT. WE'VE FOCUSED GROWTH ON ACQUISITIONS OF STRATEGICALLY PLACED ASSETS THAT PROVIDE VALUE AND OPPORTUNITY FOR OUR PIPELINE AND ENERGY SERVICES OPERATIONS AS ANOTHER KEY ELEMENT OF OUR BUSINESS PLAN. DEVELOPING INDIVIDUAL POTENTIAL AND TEAMWORK TO MAINTAIN EMPLOYEES AS OUR ONGOING SOURCE OF COMPETITIVE ADVANTAGE WILL ALSO HELP SHAPE OUR FUTURE.

pipeline and energy services



Underground pipelines bring natural gas to cities such as Billings, Montana. Delivery is vital to the ongoing economic welfare of industry and the American lifestyle. Our pipeline and energy services operations play an important role in heating homes and energizing industry.



Seizing Opportunity

With the construction of over 100 miles of new pipeline completed in late 2000, the company added approximately 40 percent more capacity to receive and transport coal bed natural gas through its pipeline system. The new pipelines run through the heart of the Powder River Basin where production of natural gas embedded in coal seams is rapidly developing. The company's pipeline and storage resources are well positioned to make the company a key player in getting the new supply to the marketplace.

Acquisition of targeted natural gas gathering system assets adjacent to existing operations also expanded the pipeline unit. Through these acquisitions, management expects to gain operating efficiencies and additional growth for its pipeline business. Company management continues its business development activities looking for assets and resources that add value to existing operations through further vertical integration of its natural gas delivery and storage systems or the addition of new market opportunities.

Technology Provides New Markets

The corporation's research and development activities were advanced in 2000 with the acquisition of Innovatum, Inc. Founded by a space physics professor at Rice University, the company's primary services involve the locating and tracking of undersea cable and pipeline using various technologies, including a newly developed proprietary magnetization technology. For nearly three decades, Innovatum has been involved in the global market that exists for this type of service and will focus on becoming the world's leader in infrastructure locating and tracking technology, equipment and services. Research and development of energy products and services related to other lines of business within the MDU Resources family are also under way.

Other energy services, based on understanding customer needs and the market, also continue to provide growth opportunities. Installing propane standby systems and energy marketing and management services are part of the company's portfolio of services.

Tim Marzolf is part of the Innovatum team that markets a magnetization process that greatly improves underwater locating and tracking of fiber optic cable and pipelines.

Gathering Volumes
(MMdk)



Natural gas gathering services are a growing part of the pipeline and energy services business.

THE ELECTRIC AND NATURAL GAS DISTRIBUTION SEGMENT HAS FOCUSED GROWTH ON THREE FUNDAMENTAL TARGETS: WORKING SMARTER AND PURSUING TECHNOLOGICAL IMPROVEMENTS, SELLING MORE PRODUCTS AND SERVICES TO EXISTING CUSTOMERS, AND EXPANDING UTILITY OPERATIONS. UTILITY EARNINGS OF \$22.5 MILLION IN 2000, WHICH WERE 38 PERCENT OVER 1996 EARNINGS, CONFIRM THE STRATEGY IS ON THE MARK.

electric and natural gas distribution

Electricity to light your home

With more than 76 years of experience in electricity and natural gas distribution, we now serve nearly 287,000 customers in five states. Taking advantage of technological and innovative operating efficiencies, such as recent control equipment upgrades at our power plants, help ensure our future competitive posture.



Energy to heat your water



Expanding the Utility Base

The year's most notable strategic achievement was the acquisition of Great Plains Natural Gas Co., which serves 22,000 natural gas customers in 18 western Minnesota communities and Wahpeton, North Dakota. These communities are home to value-added agricultural processing plants and other light manufacturing and commercial facilities. The integration of Great Plains into our utility allows us to use existing assets and employee talents more efficiently. The Great Plains acquisition affirms our intent to grow in the utility industry.

Our electric system is recognized for stable rates and reliable service. Customers continue to add growth to our system as evidenced by the new system electric peak of 432 megawatts, set in August 2000. This was 3 percent above the previous record set in 1999.

Investing in Efficiency

Pursuit of efficiency contributes to price stability for our customers and earnings growth for our shareholders. By taking advantage of electronic technology to quicken and enhance customer service, we have steadily increased the customers served per utility employee.

Our central call center now handles an average of 1,600 calls per day. Call center agents provide one-stop service thereby enhancing customer satisfaction while reinforcing company efficiency. The real-time customer information system installed in 1999 and in-truck computer terminals, which allow service technicians to receive orders instantly, are also examples of initiatives taken to increase our efficiency in providing prompt and reliable service to our customers.

Nonregulated Activities Increase Earnings

Throughout our history, providing full customer service has remained our hallmark. Nonregulated services added \$1.5 million to earnings in 2000. Enrollment in *Preferred Service*, our appliance protection program, increased by 7 percent during the year. Nearly 26,000 customers now enjoy the benefits of this service.

Appliance sales increased by 55 percent compared to 1999. Most sales result from our customers' long-time association and satisfaction with our company. Sales through the Internet are also available.

Todd Blomme is a service technician with Great Plains Natural Gas, a distribution utility acquired last year. This acquisition increased the number of natural gas customers served by 10 percent.

Customer Service Program Revenue
(Dollars in millions)



Revenues from services such as *Preferred Service* and appliance sales have more than doubled since 1996.

The lives that...

OUR EXPERTISE IN DESIGNING AND BUILDING NATURAL GAS AND ELECTRIC POWER LINES HAS BEEN THE BASIS FOR OUR FOCUSED GROWTH. UTILITY SERVICES, INC. IS BRANCHING OUT ALL OVER THE UNITED STATES, BUILDING UPON ITS EMPLOYEES' INTELLECTUAL CAPITAL AND TECHNICAL EXPERTISE. USI HAS GONE FROM GROUND ZERO IN 1997 TO \$169 MILLION IN REVENUE IN 2000. THE GOAL OF OUR UTILITY SERVICES BUSINESS IS TO ACHIEVE COMPOUND ANNUAL REVENUE AND EARNINGS GROWTH RATES OF APPROXIMATELY 20 TO 25 PERCENT OVER THE NEXT FIVE YEARS.

utility services

Expanding upon our years in the energy industry, utility services employees provide design and build services on a contract basis throughout most of the United States. Tom Gope of Wagner-Smith provides expert electrical support to an automaker in Ohio.

Evaine Hamilton, Harp Line Constructors, is part of the utility services team whose expertise includes design, construction, operation and maintenance of utility systems, including the ability to adapt new technologies to make installing fiber optic cable easier and more profitable.



Lines connecting

Growth Opportunities

USI is pursuing growth through the acquisition of utility services companies that are well managed, have excellent reputations and are growth-driven. The company seeks acquisitions that broaden its markets. Strategic acquisitions and the growth of its engineering services highlighted the year. Due to growing demand, Harp Engineering, Inc., increased its engineering staff and expanded its offices to Arizona to take advantage of the opportunities presented in the fast-growing Southwest.

The acquisition of the Wagner-Smith companies, headquartered in Dayton, Ohio, added a mighty limb and many branches to the USI family tree. Wagner-Smith is a diversified electrical contractor in the industrial, utility, institutional and governmental markets. These operations include: traffic signal systems; street lighting; equipment manufacturing, rental and sales; industrial pump distribution and repair; and mechanical construction services.

The Capital Electric companies, located in Kansas City, Missouri, joined USI in early January 2001. Capital Electric specializes in powerline construction, repair and maintenance; industrial electrical construction and service; power plant electrical construction; and data and telecommunications contracting.

Bundled Package of Services

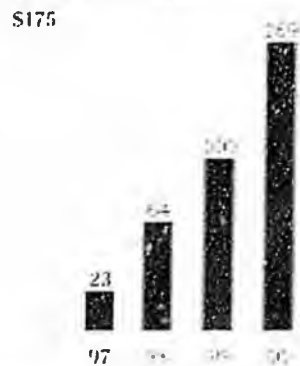
As USI has grown, the business increasingly has added resources that make it possible to provide additional services to customers.

USI specializes in the construction and maintenance of electric power and natural gas distribution and transmission lines as well as communication and fiber optic facilities. As deregulation pressures and system demands increase, utilities are outsourcing more services to utility service companies. Commitment to reliability and providing low-cost service are company hallmarks.

Management continues to seek opportunities to improve its competitive edge by seeking efficiency improvements. Operations have been regionalized to allow consolidation and to provide better customer service, while saving time and reducing costs.

Utility Services Revenues

(Dollars in millions)



Utility services has grown into a business with \$169 million in revenues in just four years.



Eileen Rosenau and Bruce Gallagher are part of the MDU Resources' legal team that supports the acquisition activities.

SINCE 1992, MDU RESOURCES HAS COMPLETED OVER 70 ACQUISITIONS. THE ACQUIRED COMPANIES WERE ALL SUBJECTED TO A DETAILED EXAMINATION CALLED "DUE DILIGENCE." THIS PROCESS HELPS ENSURE THE ACQUIRED COMPANY WILL FIT MDU RESOURCES' FOCUSED GROWTH STRATEGY. PROPER DUE DILIGENCE IS IMPORTANT TO THE BOTTOM LINE AND TO FUTURE SUSTAINABLE GROWTH.

disciplined growth

Research to Ensure Success

Due diligence takes place after MDU Resources proposes to purchase a company. The proposal may be the result of research in a particular industry, a call from a broker or from the owner of a company who wants to sell. If the company appears to fit MDU Resources' business strategy and meets established criteria, a nonbinding letter of interest is signed which formalizes discussion about a possible sale. Once that letter is signed, the due diligence process begins.

An Investment in Value

Due diligence focuses on several important areas such as the health of the local economy, the target company's market share, financial health, environmental record and relationship with its employees. The more thorough the due diligence process, the better our ability to assess the probability of a high return to our shareholders.

Due diligence can take several months. The process proceeds until each area of concern is addressed. However, if during the process the company discovers something that is not compatible with its goals or something that is significantly different than anticipated, due diligence can come to an abrupt end. Due diligence is a serious commitment of employee and financial resources.

Voices of Experience

Each MDU Resources' business unit has a due diligence team. Team composition is based on the acquisition target and the expertise needed for a comprehensive evaluation.

"Due diligence can be very intense, but it has allowed me to see first hand how other companies operate their environmental programs – issues similar to those I work with every day."

Andrea Stomberg, Environmental Manager,
Montana-Dakota Utilities Co.

"Looking at a wide variety of companies has convinced me there is no cookbook approach to identifying the critical drivers in a potential acquisition. The process varies with different types of companies."

Darwin Subart, Executive Vice President and
General Manager, WBI Southern, Inc.

"For me due diligence is mostly assessing a company's aggregate reserves. It's really a critical area because an accurate estimate of the reserve base can mean millions of dollars in the sale price and profitability later."

Jim Murray, Engineering Services Manager,
Kulfe River Corporation

Rebecca Dorwart is a senior business development analyst with KRC Holdings. She is part of a team that analyzes potential acquisitions.





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Jim Murray, Engineering Services Manager, Knife River Corporation

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Glossary

Terminology

Aggregates: Sand, gravel or rock used primarily for construction purposes.

Construction materials: Asphalt, cement, concrete reinforcement steel, concrete masonry block, ready-mixed concrete and aggregates.

Federal Energy Regulatory Commission (FERC): Federal agency within the Department of Energy regulating prices and conditions of service for interstate electricity and natural gas transmission and sale.

Natural gas storage: Natural gas is usually stored in a depleted oil or natural gas field. Natural gas is injected and withdrawn as needed primarily to help meet winter heating demand.

Reserves: Estimated volumes of natural gas, oil, coal or aggregates in the ground that can be economically recovered with reasonable certainty.

Wholesale electric sales: Electric energy sales to customers who, in turn, resell it to their customers. Typically these sales are accomplished between electric utility companies.

Units of Measure

Bcf: billion cubic feet

Bcfe: billion cubic feet equivalent; standard conversion of barrels of oil to natural gas equivalent volume; one million barrels of oil equates to six billion cubic feet of natural gas equivalent

Btu: British thermal unit; a standard unit for measuring heat, one Btu represents the quantity of heat necessary to raise the temperature of one pound of water one degree Fahrenheit

dk: decatherm; measures heating value, one decatherm of natural gas has the energy equivalent of 1 million Btu

kW: kilowatt; a measure of electric power equal to 1,000 watts

kWh: kilowatt-hour; a measure of electricity consumption equivalent to the use of 1,000 watts of power over a period of one hour

Mcf: thousand cubic feet; a standard volume measure for natural gas

MMcf: million cubic feet

MMdk: million decatherms

MW: megawatt; a measure of electric power equal to one million watts

Management's Discussion and Analysis

For purposes of segment financial reporting and discussion of results of operations, electric and natural gas distribution include the electric and natural gas distribution operations of Montana-Dakota Utilities Co. and the natural gas distribution operations of Great Plains Natural Gas Co. Utility services includes all the operations of Utility Services, Inc. Pipeline and energy services includes WBI Holdings, Inc.'s natural gas transportation, underground storage, gathering services and energy marketing and management services. Natural gas and oil production includes the natural gas and oil acquisition, exploration and production operations of WBI Holdings, while construction materials and mining includes the results of Knife River Corporation's operations.

Overview

The following table summarizes the contribution to consolidated earnings by each of the company's business segments.

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions, where applicable)</i>			
Electric	\$ 17.7	\$16.0	\$ 13.9
Natural gas distribution	4.8	3.2	3.5
Utility services	8.6	6.5	3.3
Pipeline and energy services	10.5	21.0	18.6
Natural gas and oil production	38.6	16.2	(30.5)
Construction materials and mining	30.1	20.4	24.5
Earnings on common stock	\$110.3	\$83.3	\$ 33.3
Earnings per common share - basic	\$ 1.80	\$1.53	\$.66
Earnings per common share - diluted	\$ 1.80	\$1.52	\$.66
Return on average common equity	14.3%	13.9%	6.5%

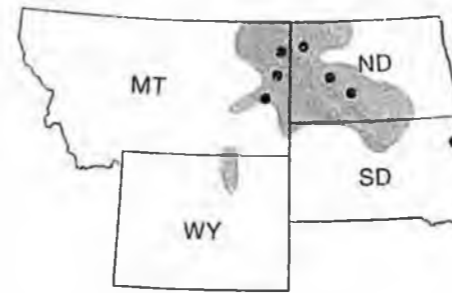
2000 compared to 1999 Consolidated earnings for 2000 increased \$27.0 million from the comparable period a year ago due to higher earnings from the natural gas and oil production, construction materials and mining, utility services, electric and natural gas distribution businesses. Lower earnings at the pipeline and energy services business partially offset the earnings increase.

1999 compared to 1998 Consolidated earnings for 1999 increased \$50.0 million from the comparable period a year ago due to higher earnings from the natural gas and oil production business, largely resulting from the 1998 \$39.9 million in non-cash after-tax write-downs of natural gas and oil properties. Increased earnings at the utility services, pipeline and energy services and electric businesses also added to the improvement in earnings. Lower earnings at the construction materials and mining and natural gas distribution businesses somewhat offset the earnings increase.

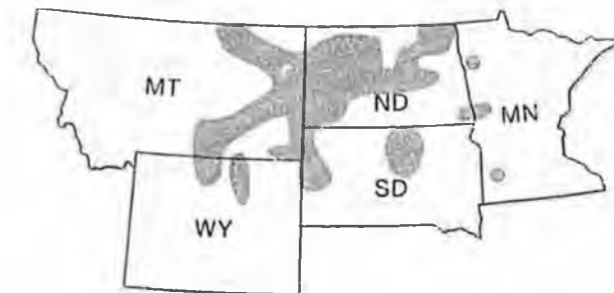
Reference should be made to Items 1 and 2 - Business and Properties, Item 3 - Legal Proceedings in the company's 2000 Form 10-K and Notes to Consolidated Financial Statements for information pertinent to various commitments and contingencies.

Financial and Operating Data

The following tables are key financial and operating statistics for each of the company's business segments.



● Electric distribution area
● Electric generating stations



● Natural gas distribution

Electric

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions, where applicable)</i>			
Operating revenues:			
Retail sales	\$134.5	\$130.9	\$130.9
Sales for resale and other	27.1	24.0	16.4
	161.6	154.9	147.3
Operating expenses:			
Fuel and purchased power	54.1	51.8	49.8
Operation and maintenance	42.5	41.6	40.1
Depreciation, depletion and amortization	19.1	18.4	18.1
Taxes, other than income	7.1	7.4	7.1
	122.8	119.2	115.1
Operating income	\$ 38.8	\$ 35.7	\$ 32.2
Retail sales (million kWh)	2,161.3	2,075.5	2,053.9
Sales for resale (million kWh)	930.3	943.5	586.5
Average cost of fuel and purchased power per kWh	\$.016	\$.016	\$.017

2000 compared to 1999 Electric earnings increased due to higher demand-related retail sales to all major customer classes, higher average realized rates and lower employee benefit-related expenses. Increased fuel and purchased power costs, largely higher purchased power costs, increased coal costs, and higher natural gas generation-related costs, partially offset the earnings increase. Higher maintenance expense at certain of the company's electric generating stations, and increased depreciation, depletion and amortization expense, resulting from higher property, plant and equipment balances, also partially offset the earnings increase.

1999 compared to 1998 Electric earnings improved primarily due to increased sales for resale revenue caused by a 61 percent increase in volumes at higher margins, both largely resulting from favorable contracts. Lower retail fuel and purchased power costs primarily due to decreased purchased power demand charges resulting from the 1998 pass-through of periodic maintenance costs, related to a participation power contract, also added to the earnings increase. Increased operation and maintenance expense resulting mainly from higher subcontractor costs, primarily at the Lewis & Clark Station due to boiler and turbine maintenance, and increased payroll expense partially offset the earnings improvement.

Natural Gas Distribution

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions, where applicable)</i>			
Operating revenues:			
Sales	\$229.2	\$154.1	\$150.6
Transportation and other	3.9	3.6	3.5
	233.1	157.7	154.1
Operating expenses:			
Purchased natural gas sold	178.6	110.2	106.5
Operation and maintenance	32.0	29.2	28.5
Depreciation, depletion and amortization	8.4	7.4	7.1
Taxes, other than income	4.6	4.2	4.0
	223.6	151.0	146.1
Operating income	\$ 9.5	\$ 6.7	\$ 8.0
Volumes (MMdk):			
Sales	36.6	30.9	32.0
Transportation	14.3	11.6	10.3
Total throughput	50.9	42.5	42.3
Degree days (% of normal)	100.4%	88.8%	93.7%
Average cost of natural gas, including transportation thereon, per dk	\$ 4.88	\$ 3.56	\$ 3.33

2000 compared to 1999 Earnings improved at the natural gas distribution business largely due to higher weather-related retail sales volumes resulting from weather in the fourth quarter which was 46 percent colder than a year ago. Increased service and repair margins, earnings from Great Plains Natural Gas, which was acquired in July 2000, and higher transportation volumes also added to the earnings increase. Increased depreciation, depletion and amortization expense, due to higher property, plant and equipment balances, and lower average realized transportation rates, partially offset the earnings increase.

1999 compared to 1998 Earnings decreased at the natural gas distribution business due primarily to lower sales volumes caused by weather that was 5 percent and 11 percent warmer than last year and normal, respectively. Increased operation and maintenance expense resulting from higher payroll expenses also added to the reduction in earnings. Increased volumes transported, primarily to industrial customers, and higher service and repair income partially offset the earnings decline.

Amounts presented in the preceding tables for operating revenues, purchased natural gas sold and operation and maintenance expense will not agree with the Consolidated Statements of Income due to the elimination of intercompany transactions between the pipeline and energy services segment and the natural gas distribution and natural gas and oil production segments. The amounts relating to the elimination of intercompany transactions for operating revenues, purchased natural gas sold and operation and maintenance expense are as follows: \$96.9 million, \$96.0 million and \$.9 million for 2000; \$64.5 million, \$64.0 million and \$.5 million for 1999; and \$58.0 million, \$57.5 million and \$.5 million for 1998, respectively.

Safe Harbor for Forward-looking Statements

The company is including the following cautionary statement in this Annual Report to make applicable and to take advantage of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 for any forward-looking statements made by, or on behalf of, the company. Forward-looking statements include statements concerning plans, objectives, goals, strategies, future events or performance, and underlying assumptions (many of which are based, in turn, upon further assumptions) and other statements which are other than statements of historical facts. From time to time, the company may publish or otherwise make available forward-looking statements of this nature, including statements contained within Prospective Information. All such subsequent forward-looking statements, whether written or oral and whether made by or on behalf of the company, are also expressly qualified by these cautionary statements.

Forward-looking statements involve risks and uncertainties, which could cause actual results or outcomes to differ materially from those expressed. The company's expectations, beliefs and projections are expressed in good faith and are believed by the company to have a reasonable basis, including without limitation management's examination of historical operating trends, data contained in the company's records and other data available from third parties, but there can be no assurance that the company's expectations, beliefs or projections will be achieved or accomplished. Furthermore, any forward-looking statement speaks only as of the date on which such statement is made, and the company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances that occur after the date on which such statement is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible for management to predict all of such factors, nor can it assess the effect of each such factor on the company's business or the extent to which any such factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statement.

In addition to other factors and matters discussed elsewhere herein, some important factors that could cause actual results or outcomes for the company to differ materially from those discussed in forward-looking statements include prevailing governmental policies and regulatory actions with respect to allowed rates of return, financings, or industry and rate structures, acquisition and disposal of assets or facilities, operation and construction of plant facilities, recovery of purchased power and purchased gas costs, present or prospective generation and availability of economic supplies of natural gas. Other important factors include the level of governmental expenditures on public projects and the timing of such projects, changes in anticipated tourism levels, the effects of competition (including but not limited to electric retail wheeling and transmission costs and prices of alternate fuels and system deliverability costs), natural gas and oil commodity prices, drilling successes in natural gas and oil operations, ability to acquire natural gas and oil properties, and the availability of economic expansion or development opportunities.

The business and profitability of the company are also influenced by economic and geographic factors, including political and economic risks, changes in and compliance with environmental and safety laws and policies, weather conditions, population growth rates and demographic patterns, market demand for energy from plants or facilities, changes in tax rates or policies, unanticipated project delays or changes in project costs, unanticipated changes in operating expenses or capital expenditures, labor negotiations or disputes, changes in credit ratings or capital market conditions, inflation rates, inability of the various counterparties to meet their contractual obligations, changes in accounting principles and/or the application of such principles to the company, changes in technology and legal proceedings, and the ability to effectively integrate the operations of acquired companies.

Prospective Information

The following information includes highlights of the key growth strategies, projections and certain assumptions for the company over the next few years and other matters for each of its six major business segments. Many of these highlighted points are forward-looking statements. There is no assurance that the company's projections, including estimates for growth and increases in revenues and earnings, will in fact be achieved. Reference should be made to assumptions contained in this section, changes in which, as well as the various important factors listed under the heading Safe Harbor for Forward-looking Statements, that could cause actual future results to differ materially from the company's targeted growth, revenue and earnings projections.

MDU Resources Group, Inc.

- Based on current expectations, the company anticipates that its three to five year compound annual earnings per share growth rate from operations will be in the general range of 10 to 12 percent.
- Earnings per share, diluted, from operations for 2001 are projected in the \$1.95 to \$2.05 range.
- The company expects the percentage of 2001 earnings per share from operations by quarter to be in the following approximate ranges:
 - First Quarter: 13 to 18 percent
 - Second Quarter: 20 to 25 percent
 - Third Quarter: 35 to 40 percent
 - Fourth Quarter: 22 to 27 percent
- The company expects to issue and sell equity from time to time to keep its debt at the nonregulated businesses at no more than 40 percent of total capitalization.
- Based on existing operations, annual goodwill amortization expense is expected to be approximately \$4 million.

Electric

- Montana-Dakota has obtained and holds valid and existing franchises authorizing it to conduct its electric and natural gas operations in all of the municipalities it serves where such franchises are required. As franchises expire, Montana-Dakota may face increasing competition in its service areas, particularly its service to smaller towns, from rural electric cooperatives. Currently, a smaller town in western North Dakota is considering municipalization of Montana-Dakota's electric and natural gas facilities. Montana-Dakota is vigorously contesting any such proposal but is currently unable to determine the ultimate outcome of any such proceeding. Montana-Dakota intends to protect its service area and seek renewal of all expiring franchises and will continue to take steps to effectively operate in an increasingly competitive environment.

Natural gas distribution

- Annual natural gas throughput for 2001 is expected to be approximately 56 million decatherms, with about 40 million decatherms from sales and 16 million from transportation.
- The number of natural gas retail customers at existing operations is expected to grow by approximately 1.5 to 2 percent on an annual basis over the next three to five years.
- Earnings are expected to increase from the growth in sales of new value-added products and services such as appliance repair contracts and home security systems.

Utility services

- Revenues for this segment are expected to exceed \$300 million in 2001.
- This segment's goal is to achieve compound annual revenue and earnings growth rates of approximately 20 to 25 percent over the next five years.

Pipeline and energy services

- Two pipeline projects related to the company's coal bed natural gas drilling program in the Powder River Basin of Wyoming and Montana were completed in 2000. The two projects provide the pipeline company the ability to move approximately 40 percent more coal bed natural gas through its system than has historically been transported, as well as enabling additional deliveries to other pipeline systems. The largest project involved building a 75-mile, nonregulated pipeline through the heart of the basin, to move gas produced from throughout the Powder River Basin to interconnecting pipeline systems, including the company's own transmission system.
- In 2001, Williston Basin Interstate Pipeline Company's natural gas throughput is expected to increase by approximately 9 percent.
- This segment continues business development activities looking for assets and resources that add value to existing operations through further vertical integration of its natural gas delivery and storage systems.

Natural gas and oil production

- The 2001 drilling program is projected to include over 500 wells, 90 percent of which are expected to be drilled on operated properties and the emphasis will continue to be on natural gas. The 2001 drilling program is expected to be the largest drilling program in the company's history.
- Combined natural gas and oil production at this segment is expected to be 30 to 40 percent higher in 2001 than in 2000.
- The company's estimates for natural gas prices in the Rocky Mountain region are in the range of \$2.50 to \$3.00 per Mcf during 2001. The company's estimates for natural gas prices on the New York Mercantile Exchange (NYMEX) for 2001 are in the range of \$3 to \$4 per Mcf.
- The company's 2001 estimates for NYMEX crude oil prices are in the range of \$23 to \$26 per barrel.
- This segment has entered into hedging arrangements for a portion of its 2001 production. The company has entered into swap agreements and fixed price forward sales representing approximately one-fourth of 2001 estimated annual natural gas production. Natural gas swap prices range from \$4.57 to \$4.60 per Mcf based on NYMEX and \$4.04 to \$4.44 per Mcf for Rocky Mountain gas sales. In addition, approximately one-third of 2001 estimated annual oil production is hedged at NYMEX prices ranging from \$28.65 to \$29.22 per barrel.

CORRECTION

THE FOLLOWING DOCUMENT(S)
HAVE BEEN REFILMED TO
ASSURE LEGIBILITY OR PAGINATION



Central Microfilm Services
Department of Education & Early Development
State of Alaska

Regions:
Northwest
Southwest
Rocky Mountain
Central

● Utility services offices
— Regional boundaries
State names indicate authorized states of operation



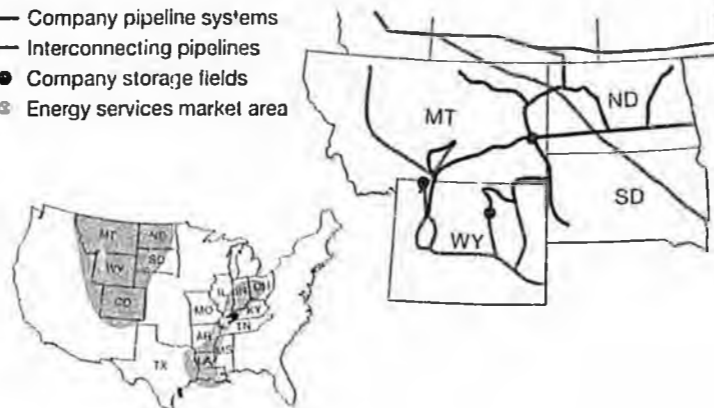
Utility Services

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions)</i>			
Operating revenues:	\$169.4	\$99.9	\$64.2
Operating expenses:			
Operation and maintenance	142.6	82.8	54.4
Depreciation, depletion and amortization	4.9	2.6	1.7
Taxes, other than income	5.3	3.0	2.2
	152.8	88.4	58.3
Operating income	\$ 16.6	\$11.5	\$ 5.9

2000 compared to 1999 Utility services earnings increased as a result of earnings from businesses acquired since the comparable period last year, higher work load in the Rocky Mountain region, primarily related to fiber optic installation projects, and increases from engineering services. This increase was somewhat offset by decreased construction activity for utilities on the West Coast, largely the result of utility merger activity and the California energy crisis.

1999 compared to 1998 Utility services earnings increased primarily due to businesses acquired since the comparable period last year and higher earnings from existing operations due to increased construction work load and higher margins.

— Company pipeline systems
— Interconnecting pipelines
● Company storage fields
⊙ Energy services market area



Pipeline and Energy Services

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions)</i>			
Operating revenues:			
Pipeline	\$ 77.4	\$ 69.6	\$ 60.8
Energy services	559.4	313.9	119.9
	636.8	383.5	180.7
Operating expenses:			
Purchased natural gas sold	548.3	301.5	109.9
Operation and maintenance	39.1	28.2	26.3
Depreciation, depletion and amortization	15.3	8.2	7.0
Taxes, other than income	5.3	5.0	3.9
	608.0	342.9	147.1
Operating income	\$ 28.8	\$ 40.6	\$ 33.6
Transportation volumes (MMdk):			
Montana-Dakota	30.6	31.5	32.2
Other	56.2	46.6	56.8
	86.8	78.1	89.0
Gathering volumes (MMdk)	41.7	19.8	9.1

2000 compared to 1999 Pipeline and energy services earnings decreased primarily due to the absence in 2000 of a 1999 \$4.4 million after-tax reserve revenue adjustment and resulting increase to income associated with FERC orders received in the 1992 and 1995 general rate proceedings, the recognition in 1999 of a \$3.9 million after-tax reserve adjustment and resulting increase to income relating to the resolution of certain production tax and other state tax matters, and the recognition in income in 1999 of \$1.7 million after-tax resulting from a favorable order received from the United States Court of Appeals for the D.C. Circuit Court (D.C. Circuit Court) relating to the 1992 general rate proceeding. An asset impairment charge of \$3.9 million after-tax in 2000 at one of the company's energy services companies also lowered earnings. In addition, higher bad debt expense and lower natural gas margins from energy services, and higher operation and maintenance expenses at the pipeline, largely higher compressor-related expenses and payroll costs, contributed to the decline in earnings. Partially offsetting the decline in earnings was the recognition in 2000 of a \$6.7 million after-tax reserve revenue adjustment and resulting increase to income relating to the resolution of the 1995 general rate proceeding. Higher natural gas transportation volumes combined with higher average transportation rates and increased gathering volumes at the pipeline also partially offset the earnings decline. The increase in energy services revenue and the related increase in purchased natural gas sold resulted from significantly higher natural gas prices and increased volumes.

1999 compared to 1998 Pipeline and energy services earnings increased largely due to a \$4.4 million after-tax reserve revenue adjustment and a \$3.9 million after-tax reserve adjustment, both as previously discussed. The recognition of \$1.7 million after-tax resulting from a favorable order received from the D.C. Circuit Court, as previously discussed, also contributed to the increase in earnings. Decreased transportation to storage and off-system markets at lower average transportation rates and reduced sales of inventoried natural gas somewhat offset the earnings increase. The \$3.1 million after-tax reversal of reserves in 1998 for certain contingencies relating to a FERC order concerning a compliance filing also partially offset the 1999 earnings increase. The increase in energy services revenue and the related increase in purchased natural gas sold resulted primarily from the acquisition of a natural gas marketing business in July 1998.



Natural Gas and Oil Production

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions, where applicable)</i>			
Operating revenues:			
Natural gas	\$ 84.7	\$ 47.9	\$ 37.6
Oil	43.4	26.9	24.3
Other	10.2	3.6	-
	138.3	78.4	61.9
Operating expenses:			
Purchased natural gas sold	3.4	1.5	-
Operation and maintenance	31.3	24.8	18.8
Depreciation, depletion and amortization	27.0	19.2	23.3
Taxes, other than income	10.1	6.0	4.2
Write-downs of natural gas and oil properties	-	-	66.0
	71.8	51.5	112.3
Operating income (loss)	\$ 66.5	\$ 26.9	\$ (50.4)
Production:			
Natural gas (MMcf)	29,222	24,652	20,699
Oil (000's of barrels)	1,882	1,758	1,912
Average realized prices:			
Natural gas (per Mcf)	\$ 2.90	\$ 1.94	\$ 1.81
Oil (per barrel)	\$23.96	\$15.34	\$12.71

2000 compared to 1999 Natural gas and oil production earnings increased primarily due to significantly higher realized natural gas and oil prices. Higher natural gas and oil production due to development of existing properties, along with increased other revenue due to higher sales of inventoried natural gas, added to the earnings increase. Partially offsetting the earnings improvement were increased depreciation, depletion and amortization expense, due to higher production volumes and higher rates, and increased operation and maintenance expense, mainly from higher lease operating expenses and higher general and administrative costs due primarily to acquisitions, and increased maintenance on existing properties. Increased interest expense due to higher average borrowings and interest rates also partially offset the earnings increase. Hedging activities for natural gas and oil production for 2000 resulted in realized prices that were 87 percent and 82 percent, respectively, of what otherwise would have been received.

1999 compared to 1998 Natural gas and oil production earnings increased largely as a result of the 1998 \$56.0 million (\$39.9 million after tax) noncash write-downs of natural gas and oil properties, as discussed in Note 1 of Notes to Consolidated Financial Statements. Higher natural gas and oil prices and increased natural gas production due to both new acquisitions and the ongoing development of existing properties also increased earnings. In addition, decreased depreciation, depletion and amortization expense due largely to lower rates resulting from the write-downs of natural gas and oil properties also added to the earnings improvement. Decreased oil production, resulting mainly from normal production declines and the sale of nonstrategic properties, and higher operation and maintenance expense partially offset the increase in earnings. Higher operation and maintenance expense resulted from changes in production mix and higher general and administrative expenses. Hedging activities for natural gas and oil production for 1999 resulted in realized natural gas prices which were unchanged and realized oil prices that were 94 percent of what otherwise would have been received.



Construction Materials and Mining

Years ended December 31,	2000	1999	1998
<i>(Dollars in millions)</i>			
Operating revenues:			
Construction materials	\$597.7	\$435.1	\$310.5
Coal	33.7	34.8	35.9
	631.4	469.9	346.4
Operating expenses:			
Operation and maintenance	534.9	402.0	280.7
Depreciation, depletion and amortization	36.2	26.0	20.6
Taxes, other than income	3.5	3.5	3.5
	574.6	431.5	304.8
Operating income	\$ 56.8	\$ 38.4	\$ 41.6
Sales (000's):			
Aggregates (tons)	18,315	13,981	11,054
Asphalt (tons)	3,310	2,993	1,790
Ready-mixed concrete (cubic yards)	1,696	1,186	1,021
Coal (tons)	3,111	3,236	3,113

2000 compared to 1999 Construction materials and mining earnings increased largely due to the absence in 2000 of \$5.6 million in after-tax charges to earnings in 1999, the result of the resolution of the coal arbitration proceeding. Higher earnings at the construction materials operations as a result of earnings from businesses acquired since the comparable period last year, higher aggregate, ready-mixed concrete and cement volumes at existing operations and a gain of \$1.2 million after-tax on the sale of a nonstrategic property also added to the earnings improvement. Increased interest expense resulting from higher acquisition-related borrowings, higher selling, general and administrative costs, higher energy costs and increased depreciation, depletion and amortization expense due to increased aggregate volumes and increased plant balances, partially offset the earnings improvement at the construction materials operations.

1999 compared to 1998 Construction materials and mining earnings decreased primarily due to lower earnings at the coal operations largely resulting from \$5.6 million in after-tax charges and lower average coal prices, both relating to the coal contract arbitration proceeding. Earnings at the construction materials businesses increased due to businesses acquired since the comparable period last year and increased activity at existing construction materials operations. Higher asphalt volumes, increased average ready-mixed concrete prices and increased construction and sales of other product lines all contributed to the earnings increase at the construction materials operations. Higher selling, general and administrative costs and increased interest expense resulting from increased acquisition-related long-term debt somewhat offset the increased earnings at the construction materials business. Normal seasonal losses realized in the first quarter of 1999 by construction materials businesses not owned during the full first quarter in 1998 also partially offset the earnings improvement at the construction materials business.

Amounts presented in the preceding tables for operating revenues, purchased natural gas sold and operation and maintenance expense will not agree with the Consolidated Statements of Income due to the elimination of intercompany transactions between the pipeline and energy services segment and the natural gas distribution and natural gas and oil production segments. The amounts relating to the elimination of intercompany transactions for operating revenues, purchased natural gas sold and operation and maintenance expense are as follows: \$96.9 million, \$96.0 million and \$.9 million for 2000; \$64.5 million, \$64.0 million and \$.5 million for 1999; and \$58.0 million, \$57.5 million and \$.5 million for 1998, respectively.

Safe Harbor for Forward-looking Statements

The company is including the following cautionary statement in this Annual Report to make applicable and to take advantage of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 for any forward-looking statements made by, or on behalf of, the company. Forward-looking statements include statements concerning plans, objectives, goals, strategies, future events or performance, and underlying assumptions (many of which are based, in turn, upon further assumptions) and other statements which are other than statements of historical facts. From time to time, the company may publish or otherwise make available forward-looking statements of this nature, including statements contained within Prospective Information. All such subsequent forward-looking statements, whether written or oral and whether made by or on behalf of the company, are also expressly qualified by these cautionary statements.

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The business and profitability of the company are also influenced by economic and geographic factors, including political and economic risks, changes in and compliance with environmental and safety laws and policies, weather conditions, population growth rates and demographic patterns, market demand for energy from plants or facilities, changes in tax rates or policies, unanticipated project delays or changes in project costs, unanticipated changes in operating expenses or capital expenditures, labor negotiations or disputes, changes in credit ratings or capital market conditions, inflation rates, inability of the various counterparties to meet their contractual obligations, changes in accounting principles and/or the application of such principles to the company, changes in technology and legal proceedings, and the ability to effectively integrate the operations of acquired companies.

Prospective Information

The following information includes highlights of the key growth strategies, projections and certain assumptions for the company over the next few years and other matters for each of its six major business segments. Many of these highlighted points are forward-looking statements. There is no assurance that the company's projections, including estimates for growth and increases in revenues and earnings, will in fact be achieved. Reference should be made to assumptions contained in this section, changes in which, as well as the various important factors listed under the heading Safe Harbor for Forward-looking Statements, that could cause actual future results to differ materially from the company's targeted growth, revenue and earnings projections.

MDU Resources Group, Inc.

- Based on current expectations, the company anticipates that its three to five year compound annual earnings per share growth rate from operations will be in the general range of 10 to 12 percent.
- Earnings per share, diluted, from operations for 2001 are projected in the \$1.95 to \$2.05 range.
- The company expects the percentage of 2001 earnings per share from operations by quarter to be in the following approximate ranges:
 - First Quarter: 13 to 18 percent
 - Second Quarter: 20 to 25 percent
 - Third Quarter: 35 to 40 percent
 - Fourth Quarter: 22 to 27 percent
- The company expects to issue and sell equity from time to time to keep its debt at the nonregulated businesses at no more than 40 percent of total capitalization.
- Based on existing operations, annual goodwill amortization expense is expected to be approximately \$4 million.

Electric

- Montana-Dakota has obtained and holds valid and existing franchises authorizing it to conduct its electric and natural gas operations in all of the municipalities it serves where such franchises are required. As franchises expire, Montana-Dakota may face increasing competition in its service areas, particularly its service to smaller towns, from rural electric cooperatives. Currently, a smaller town in western North Dakota is considering municipalization of Montana-Dakota's electric and natural gas facilities. Montana-Dakota is vigorously contesting any such proposal but is currently unable to determine the ultimate outcome of any such proceeding. Montana-Dakota intends to protect its service area and seek renewal of all expiring franchises and will continue to take steps to effectively operate in an increasingly competitive environment.

Natural gas distribution

- Annual natural gas throughput for 2001 is expected to be approximately 56 million decatherms, with about 40 million decatherms from sales and 16 million from transportation.
- The number of natural gas retail customers at existing operations is expected to grow by approximately 1.5 to 2 percent on an annual basis over the next three to five years.
- Earnings are expected to increase from the growth in sales of new value-added products and services such as appliance repair contracts and home security systems.

Utility services

- Revenues for this segment are expected to exceed \$300 million in 2001.
- This segment's goal is to achieve compound annual revenue and earnings growth rates of approximately 20 to 25 percent over the next five years.

Pipeline and energy services

- Two pipeline projects related to the company's coal bed natural gas drilling program in the Powder River Basin of Wyoming and Montana were completed in 2000. The two projects provide the pipeline company the ability to move approximately 40 percent more coal bed natural gas through its system than has historically been transported, as well as enabling additional deliveries to other pipeline systems. The largest project involved building a 75-mile, nonregulated pipeline through the heart of the basin, to move gas produced from throughout the Powder River Basin to interconnecting pipeline systems, including the company's own transmission system.
- In 2001, Williston Basin Interstate Pipeline Company's natural gas throughput is expected to increase by approximately 9 percent.
- This segment continues business development activities looking for assets and resources that add value to existing operations through further vertical integration of its natural gas delivery and storage systems.

Natural gas and oil production

- The 2001 drilling program is projected to include over 500 wells, 90 percent of which are expected to be drilled on operated properties and the emphasis will continue to be on natural gas. The 2001 drilling program is expected to be the largest drilling program in the company's history.
- Combined natural gas and oil production at this segment is expected to be 30 to 40 percent higher in 2001 than in 2000.
- The company's estimates for natural gas prices in the Rocky Mountain region are in the range of \$2.50 to \$3.00 per Mcf during 2001. The company's estimates for natural gas prices on the New York Mercantile Exchange (NYMEX) for 2001 are in the range of \$3 to \$4 per Mcf.
- The company's 2001 estimates for NYMEX crude oil prices are in the range of \$23 to \$26 per barrel.
- This segment has entered into hedging arrangements for a portion of its 2001 production. The company has entered into swap agreements and fixed price forward sales representing approximately one-fourth of 2001 estimated annual natural gas production. Natural gas swap prices range from \$4.57 to \$4.60 per Mcf based on NYMEX and \$4.04 to \$4.44 per Mcf for Rocky Mountain gas sales. In addition, approximately one-third of 2001 estimated annual oil production is hedged at NYMEX prices ranging from \$28.65 to \$29.22 per barrel.

Construction materials and mining

- On September 28, 2000, the company announced an agreement to sell its coal operations to Westmoreland Coal Company for \$28.8 million cash, excluding final settlement cost adjustments. The agreement is subject to various closing conditions and therefore will not be finalized unless and until the parties are satisfied that those conditions are met. Earnings from coal operations would normally be expected to contribute less than 10 percent of annual earnings of the construction materials and mining segment.
- Excluding the effects of potential future acquisitions, aggregate, asphalt and ready-mixed concrete volumes are expected to increase by approximately 15 percent, 32 percent and 13 percent, respectively, in 2001.
- This segment expects to achieve compound annual revenue and earnings growth rates of approximately 10 to 20 percent over the next five years.
- Earnings are expected to increase from a combination of acquisitions and by optimizing both synergies and improvements at existing operations.

New Accounting Pronouncements

In June 1998, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards

No. 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS No. 133), amended by Statement of Financial Accounting Standards No. 137, "Accounting for Derivative Instruments and Hedging Activities - Deferral of the Effective Date of FASB Statement No. 133" and Statement of Financial Accounting Standards No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities" (all such statements hereinafter referred to as SFAS No. 133). For further information on SFAS No. 133, see Note 1 of Notes to Consolidated Financial Statements.

In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin No. 101, "Revenue Recognition" (SAB No. 101), which provides guidance on the recognition, presentation and disclosure of revenue in financial statements. The company adopted SAB No. 101 in the fourth quarter of 2000. The adoption of SAB No. 101 did not have a material effect on the company's financial position or results of operations.

Liquidity and Capital Commitments

The company's capital expenditures for 1998 through 2000 and as anticipated for 2001 through 2003 are summarized in the following table, which also includes the company's capital needs for the retirement of maturing long-term debt and preferred stock.

	1998	Actual 1999	2000	Estimated* 2001	2002	2003
<i>(In millions)</i>						
Capital expenditures:						
Electric	\$ 13.0	\$ 18.2	\$ 15.8	\$ 14.8	\$ 16.6	\$ 20.9
Natural gas distribution	8.3	9.2	21.3	13.9	11.2	10.7
Utility services	18.3	16.1	42.6	52.6	30.5	31.7
Pipeline and energy services	17.6	35.1	69.0	61.4	56.8	38.0
Natural gas and oil production	100.6	64.3	173.5	103.6	130.5	109.8
Construction materials and mining	172.1	105.1	218.7	126.4	92.9	73.8
	370.9	248.0	540.9	372.7	338.5	284.9
Net proceeds from sale or disposition of property	(4.3)	(16.6)	(11.0)	(31.6)	(4)	(1)
Net capital expenditures	325.6	231.4	529.9	341.1	338.1	284.8
Retirement of long-term debt and preferred stock	113.7	18.8	29.4	19.7	50.5	282.8
	\$439.3	\$250.2	\$559.3	\$360.8	\$388.6	\$567.6

*The estimated 2001 through 2003 capital expenditures reflected in the above table include potential future acquisitions. The company continues to evaluate potential future acquisitions; however, these acquisitions are dependent upon the availability of economic opportunities and, as a result, actual acquisitions and capital expenditures may vary significantly from the above estimates.

Capital expenditures for 2000, 1999 and 1998, related to acquisitions, in the preceding table include the following noncash transactions: issuance of the company's equity securities and the conversion of a note receivable to purchase consideration of \$132.1 million in 2000; the issuance of the company's equity securities of \$77.5 million in 1999; and the issuance of the company's equity securities, less treasury stock acquired, in 1998 of \$138.8 million.

In 2000, the company acquired a number of businesses, none of which was individually material, including construction materials and mining businesses with operations in Alaska, California, Montana and Oregon; a coal bed natural gas development operation based in Colorado with related oil and gas leases and properties in Montana and Wyoming; utility services businesses based in California, Colorado, Montana and Ohio; a natural gas distribution business serving southeastern North Dakota and western Minnesota; and an energy services company based in Texas. The total purchase consideration for these businesses, consisting of the company's common stock, cash and the conversion of a note receivable to purchase consideration was \$286.0 million.

The 2000 capital expenditures, including those for the previously mentioned acquisitions, and retirements of long-term debt and preferred stock, were met from internal sources, the issuance of long-term debt and the company's equity securities. Capital expenditures for the years 2001 through 2003, include those for system upgrades, routine replacements, service extensions, routine equipment maintenance and replacements, pipeline and gathering expansion projects, the building of construction materials handling and transportation facilities, the further enhancement of natural gas and oil production and reserve growth, and for potential future acquisitions. The company continues to evaluate potential future acquisitions; however, these acquisitions are dependent upon the availability of economic opportunities and, as a result, actual acquisitions and capital expenditures may vary significantly from the estimates in the preceding table. It is anticipated that all of the funds required for capital expenditures and retirements of long-term debt and preferred stock for the years 2001 through 2003 will be met from various sources. These sources include internally generated funds, the company's \$40 million revolving credit and term loan agreement, an existing line of credit of \$8.2 million, a commercial paper credit facility at Centennial Energy Holdings, Inc., as described below, and through the issuance of long-term debt and the company's equity securities. At December 31, 2000, \$40 million under the revolving credit and term loan agreement and \$6.3 million under the line of credit were outstanding.

Centennial, a direct wholly owned subsidiary of the company, has a revolving credit agreement with various banks on behalf of its subsidiaries that supports \$315 million of Centennial's \$325 million commercial paper program. Under the Centennial commercial paper program, \$261.4 million was outstanding at December 31, 2000. The commercial paper borrowings are classified as long term as Centennial intends to refinance these borrowings on a long-term basis through continued commercial paper borrowings supported by the revolving credit agreement due September 29, 2003. Centennial intends to renew this existing credit agreement on an annual basis.

Centennial has an uncommitted long-term master shelf agreement on behalf of its subsidiaries that allows for borrowings of up to \$200 million. Under the master shelf agreement, \$150 million was outstanding at December 31, 2000.

On October 4, 2000, the company filed an application with the FERC seeking authorization to issue a combination of certain securities, as the company determines to be necessary, not to exceed a total of \$750 million. The FERC approved the company's application on November 7, 2000.

On November 20 and December 26, 2000, and February 2, 2001, the company reported sales that together totaled 1,038,739 shares of the company's Common Stock to Acqua Wellington North American Equities Fund Ltd. (Acqua Wellington), pursuant to purchase agreements by and between the company and Acqua Wellington. The company received total proceeds from these sales of \$29.5 million. These proceeds were used for refunding outstanding debt obligations and for other general corporate purposes.

The company's issuance of first mortgage debt is subject to certain restrictions imposed under the terms and conditions of its Indenture of Mortgage. Generally, those restrictions require the company to pledge \$1.43 of unfunded property to the Trustee for each dollar of indebtedness incurred under the Indenture and that annual earnings (pretax and before interest charges), as defined in the Indenture, equal at least two times its annualized first mortgage bond interest costs. Under the more restrictive of the two tests, as of December 31, 2000, the company could have issued approximately \$295 million of additional first mortgage bonds.

The company's coverage of fixed charges including preferred dividends was 4.1 and 4.3 times for 2000 and 1999, respectively. Additionally, the company's first mortgage bond interest coverage was 8.3 times in 2000 compared to 7.1 times in 1999. Common stockholders' equity as a percent of total capitalization was 54 percent at both December 31, 2000 and 1999.

Effects of Inflation

Inflation did not have a significant effect on the company's operations in 2000, 1999 or 1998.

Quantitative and Qualitative Disclosures About Market Risk

Commodity price risk

The company utilizes derivative financial instruments, including price swap and collar agreements, to manage a portion of the market risk associated with fluctuations in the price of natural gas and oil. The company's policy prohibits the use of derivative instruments for speculating to take advantage of market trends and conditions and the company has procedures in place to monitor compliance with its policies. The company is exposed to credit-related losses in relation to financial instruments in the event of nonperformance by counterparties, but does not expect any counterparties to fail to meet their obligations given their existing credit ratings.

The swap and collar agreements call for the company to receive monthly payments from or make payments to counterparties based upon the difference between a fixed and a variable price as specified by the agreements. The variable price is either a quoted natural gas price on the NYMEX, Colorado Interstate Gas Index or other various indexes or an oil price quoted on the NYMEX. The company believes that there is a high degree of correlation because the timing of purchases and production and the swap and collar agreements are closely matched, and hedge prices are established in the areas of operations. For the years ending December 31, 2000, 1999 and 1998, gains or losses on the swap and collar agreements were matched and reported in operating revenues on the Consolidated Statements of Income as a component of the related commodity transaction at the time of settlement with the counterparty.

The following table summarize , hedge agreements entered into by certain wholly owned subsidiaries of the company, as of December 31, 2000. These agreements call for the subsidiaries to receive fixed prices and pay variable prices.

(Notional amount and fair value in thousands)

	Weighted Average Fixed Price (Per MMBtu)	Notional Amount (In MMBtu's)	Fair Value
Natural gas swap agreements maturing in 2001	\$ 4.45	5,461	\$(12,311)
	Weighted Average Fixed Price (Per barrel)	Notional Amount (In barrels)	Fair Value
Oil swap agreements maturing in 2001	\$28.80	593	\$ 2,261

The following table summarizes hedge agreements entered into by certain wholly owned subsidiaries of the company, as of December 31, 1999. These agreements call for the subsidiaries to receive fixed prices and pay variable prices.

	Weighted Average Fixed Price (Per MMBtu)	Notional Amount (In MMBtu's)	Fair Value
Natural gas swap agreements maturing in 2000	\$2.33	5,307	\$ 597
	Weighted Average Fixed Price (Per barrel)	Notional Amount (In barrels)	Fair Value
Oil swap agreements maturing in 2000	\$19.55	769	\$(1,870)
	Weighted Average Floor/Ceiling Price (Per MMBtu)	Notional Amount (In MMBtu's)	Fair Value
Natural gas collar agreements maturing in 2000	\$2.34/\$2.68	3,196	\$ 112
	Weighted Average Floor/Ceiling Price (Per barrel)	Notional Amount (In barrels)	Fair Value
Oil collar agreement maturing in 2000	\$20.00/\$22.33	183	\$ (134)

The fair value of these derivative financial instruments reflects the estimated amounts that the company would receive or pay to terminate the contracts at the reporting date, thereby taking into account the current favorable or unfavorable position on open contracts. The favorable or unfavorable position is not recorded on the company's Consolidated Balance Sheets as of December 31, 2000 and 1999. Favorable and unfavorable positions related to commodity hedge agreements are expected to be generally offset by corresponding increases and decreases in the value of the underlying commodity transactions.

In the event a derivative financial instrument does not qualify for hedge accounting or when the underlying commodity transaction matures, is sold, is extinguished, or is terminated, the current favorable or unfavorable position on the open contract would be included in results of operations. The company's policy requires approval to terminate a hedge agreement prior to its original maturity. In the event a hedge agreement is terminated, the realized gain or loss at the time of termination would be deferred until the underlying commodity transaction is sold or matures and is expected to generally offset the corresponding increases or decreases in the value of the underlying commodity transaction.

The company has energy marketing operations that are exposed to risks, including risks relating to changes in natural gas prices and counterparty performance (credit risk), associated with natural gas forward purchase and sale commitments. These commitments involve the purchase and sale of natural gas and related delivery of such commodity. The energy marketing operations seek to match natural gas purchases and sales on specific contracts so that a margin is obtained on the transportation of such commodity as distinguished from earning a margin on changes in market prices. In addition, the energy marketing contracts are generally entered into on a seasonal basis with contracts of a duration generally not exceeding 12 months. Contracts related to these activities are valued at fair value and changes in fair value are recorded as assets or liabilities on the company's Consolidated Balance Sheets. The net change in fair value representing unrealized gains and losses resulting from changes in market prices on these contracts is reflected in earnings on the company's Consolidated Statements of Income. Net unrealized gains and losses on these contracts were not material in 2000, 1999 or 1998. In general, market risk is the risk of fluctuations in the market price of the commodity being marketed and is influenced primarily by supply and demand. The company monitors and manages its exposure to market risk through a variety of risk management techniques. Such procedures include monitoring commitments and positions, evaluating sensitivity to changes in market prices and market volatility, and reporting to senior management. Credit risk is the risk of loss from nonperformance by

counterparties of their contractual obligations. The company maintains credit procedures, which management believes significantly minimize overall credit risk. The company seeks to mitigate credit risk by applying specific eligibility criteria to prospective counterparties and may require letters of credit or similar security to secure payment on such sales contracts. However, despite mitigation efforts, defaults by counterparties may occur. To date, no such defaults have had a material effect on the company's financial position or results of operations.

Interest rate risk

The company uses fixed and variable rate long-term debt to partially finance capital expenditures and mandatory debt retirements. These debt agreements expose the company to market risk related to changes in interest rates. The company manages this risk by taking advantage of market conditions when timing the placement of long-term or permanent financing. The company also has outstanding 15,000 shares of 5.10% Series preferred stock subject to mandatory redemption as of December 31, 2000. The company is obligated to make annual sinking fund contributions to retire the preferred stock and pay cumulative preferred dividends at a fixed rate of 5.10%. The table below shows the amount of debt, including current portion, and related weighted average interest rates, by expected maturity dates and the aggregate annual sinking fund amount applicable to preferred stock subject to mandatory redemption and the related dividend rate, as of December 31, 2000. Weighted average variable rates are based on forward rates as of December 31, 2000.

	2001	2002	2003	2004	2005	Thereafter	Total	Fair Value
<i>(Dollars in millions)</i>								
Long-term debt:								
Fixed rate	\$19.6	\$50.4	\$ 21.9	\$21.6	\$69.9	\$303.6	\$487.0	\$500.8
Weighted average interest rate	7.8%	9.0%	7.4%	6.6%	8.0%	7.6%	7.7%	-
Variable rate	-	-	\$260.8	-	-	-	\$260.8	\$271.3
Weighted average interest rate	-	-	6.9%	-	-	-	6.9%	-
Preferred stock subject to mandatory redemption	\$.1	\$.1	\$.1	\$.1	\$.1	\$ 1.0	\$ 1.5	\$.9
Dividend rate	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	-

For further information on risk management activities and financial instruments, see Note 3 of Notes to Consolidated Financial Statements.

Report of Management

The management of MDU Resources Group, Inc. is responsible for the preparation, integrity and objectivity of the financial information contained in the consolidated financial statements and elsewhere in this Annual Report. The financial statements have been prepared in conformity with generally accepted accounting principles as applied to the company's regulated and nonregulated businesses and necessarily include some amounts that are based on informed judgments and estimates of management.

To meet its responsibilities with respect to financial information, management maintains and enforces a system of internal accounting controls designed to provide assurance, on a cost-effective basis, that transactions are carried out in accordance with management's authorizations and that assets are safeguarded against loss from unauthorized use or disposition. The system includes an organizational structure which provides an appropriate segregation of responsibilities, effective selection and training of personnel, written policies and procedures and periodic reviews by the Internal Auditing Department. In addition, the company has a policy which requires all employees to acknowledge their responsibility for ethical conduct. Management believes that these measures provide for a system that is effective and reasonably assures that all transactions are properly recorded for the preparation of financial statements. Management modifies and improves its system of internal accounting controls in response to changes in business conditions. The company's Internal Auditing Department is charged with the responsibility for determining compliance with company procedures.

The Board of Directors, through its audit committee which is comprised entirely of outside directors, oversees management's responsibilities for financial reporting. The audit committee meets regularly with management, the internal auditors and Arthur Andersen LLP, independent public accountants, to discuss auditing and financial matters and to assure that each is carrying out its responsibilities. The internal auditors and Arthur Andersen LLP have full and free access to the audit committee, without management present, to discuss auditing, internal accounting control and financial reporting matters.

Arthur Andersen LLP is engaged to express an opinion on the financial statements. Their audit is conducted in accordance with auditing standards generally accepted in the United States and includes examining, on a test basis, supporting evidence, assessing the company's accounting principles used and significant estimates made by management and evaluating the overall financial statement presentation to the extent necessary to allow them to report on the fairness, in all material respects, of the financial condition and operating results of the company.

Martin A. White
Chairman of the Board,
President and
Chief Executive Officer

Warren L. Robinson
Executive Vice President,
Treasurer and
Chief Financial Officer

Report of Independent Public Accountants

To MDU Resources Group, Inc.

We have audited the accompanying consolidated balance sheets of MDU Resources Group, Inc. (a Delaware corporation) and Subsidiaries as of December 31, 2000 and 1999, and the related consolidated statements of income, common stockholders' equity and cash flows for each of the three years in the period ended December 31, 2000. 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 auditing standards generally accepted in the United States. 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 MDU Resources Group, Inc. and Subsidiaries as of December 31, 2000 and 1999, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2000, in conformity with accounting principles generally accepted in the United States.

ARTHUR ANDERSEN LLP

Minneapolis, Minnesota
January 25, 2001

Consolidated Statements of Income

MDU Resources Group, Inc.

Years ended December 31,	2000	1999	1998
<i>(In thousands, except per share amounts)</i>			
Operating revenues	\$1,873,671	\$1,279,809	\$896,627
Operating expenses:			
Fuel and purchased power	54,114	51,802	49,829
Purchased natural gas sold	634,277	349,215	158,908
Operation and maintenance	821,528	608,104	448,290
Depreciation, depletion and amortization	110,888	81,818	77,786
Taxes, other than income	35,877	29,119	24,871
Write-downs of natural gas and oil properties (Note 1)	-	-	66,000
	1,656,684	1,120,058	825,684
Operating income	216,987	159,751	70,943
Other income - net	11,724	9,645	10,922
Interest expense	48,033	36,006	30,273
Income before income taxes	180,678	133,390	51,592
Income taxes	69,650	49,310	17,485
Net income	111,028	84,080	34,107
Dividends on preferred stocks	766	772	777
Earnings on common stock	\$ 110,262	\$ 83,308	\$ 33,330
Earnings per common share - basic	\$ 1.80	\$ 1.53	\$.66
Earnings per common share - diluted	\$ 1.80	\$ 1.52	\$.66
Dividends per common share	\$.86	\$.82	\$.7834
Weighted average common shares outstanding - basic	61,090	54,615	50,536
Weighted average common shares outstanding - diluted	61,390	54,870	50,837

The accompanying notes are an integral part of these consolidated statements.