ENERGY NORTHWEST

The Power of Vision

2006 ANNUAL REPORT

At Energy Northwest, our Vision is to be the region's preferred source for energy solutions.

Our Mission is to provide responsible and cost effective energy solutions for the region's ratepayers.

All Energy Northwest operations, generation resources, and projects adhere to the stringent environmental standards of ISO 14001:2004.

Learn more about Energy Northwest people and projects on the web at: www.energy-northwest.com.

The 2006 Annual Report is dedicated to Grant County PUD Commissioner Vera Claussen, who served on the Energy Northwest Board of Directors from 1983 to 2006, and on the Energy Northwest Executive Board from 1986 to 2006.

Letter

to the public power community

From Blackberries to iPods to holographic imagery and beyond, information today is traveling at the speed of light. How much of this information is vital might be the subject of debate. What is truly essential is sometimes lost in the noise.

At Energy Northwest, we believe that, notwithstanding the value of good information, hard work, and perseverance, vision is most critical to the success of any endeavor, be it information technology or electricity generation and delivery. Vision sets direction and provides focus. Everything flows from that. To operate without a clear vision is to risk getting lost in a sea of information and good intentions, however useful.

With this annual report, we honor the 20th century vision that spawned the public power movement in the state of Washington and throughout our nation. The power of that vision has resonated through decades of service to ratepayers across the Northwest. Public power and public power delivery systems have been and continue to be crucial to the economic success of the region. They are the bedrock on which business grows and communities thrive.

Energy Northwest is part of that same vision. A natural outgrowth of the public power model, this agency's sole purpose is to serve member utilities and the greater public power community—through electricity generation, new resource development, and the tools needed to ensure optimum operations and production.

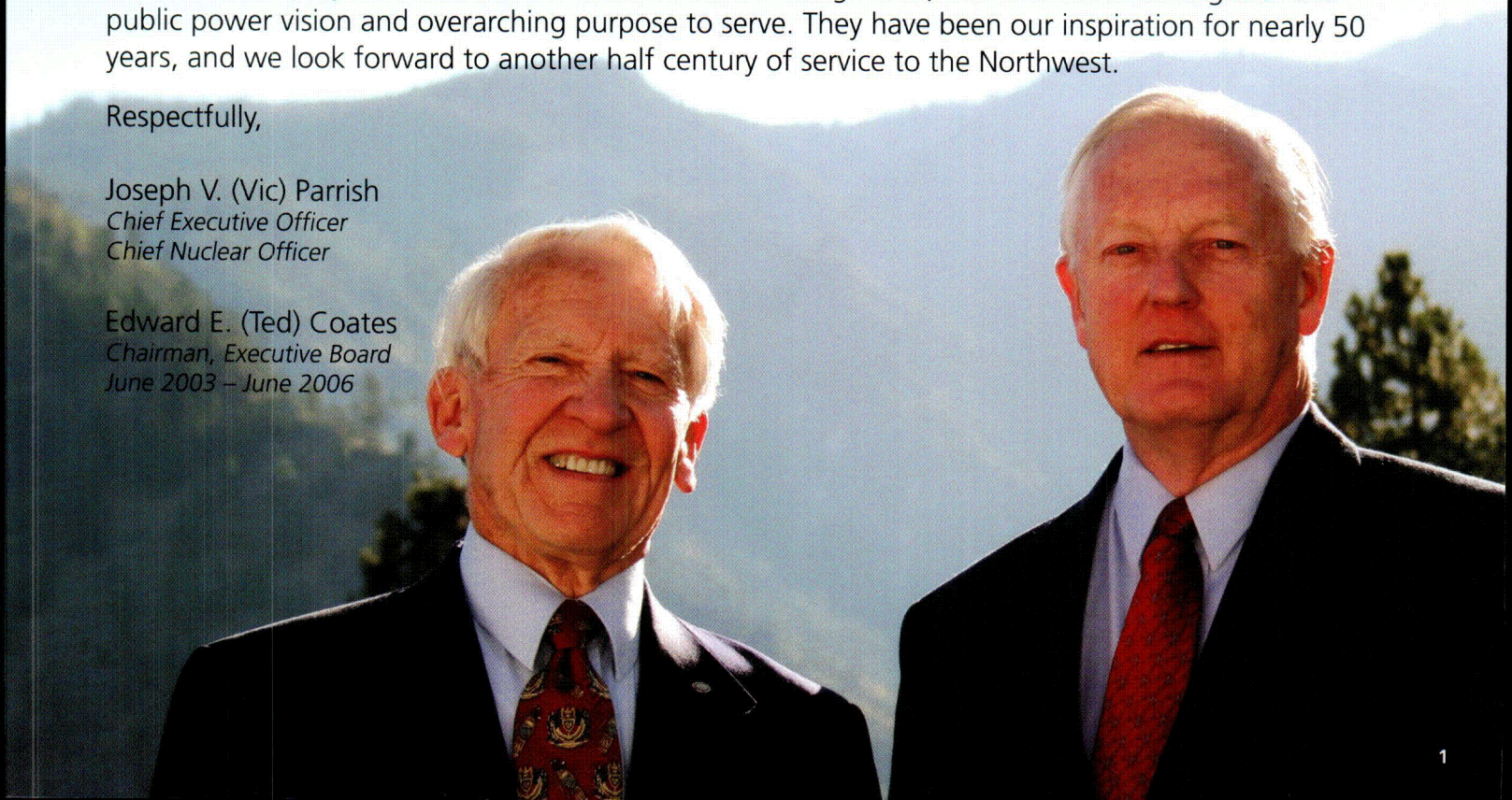
The process works like this: First, we listen to our constituents. Then, we deliver solutions. Our vision comes from knowing the market we serve inside and out. But it is something greater than knowledge that informs our vision. It is inspiration, ideas, and the courage to pursue them for the greater good.

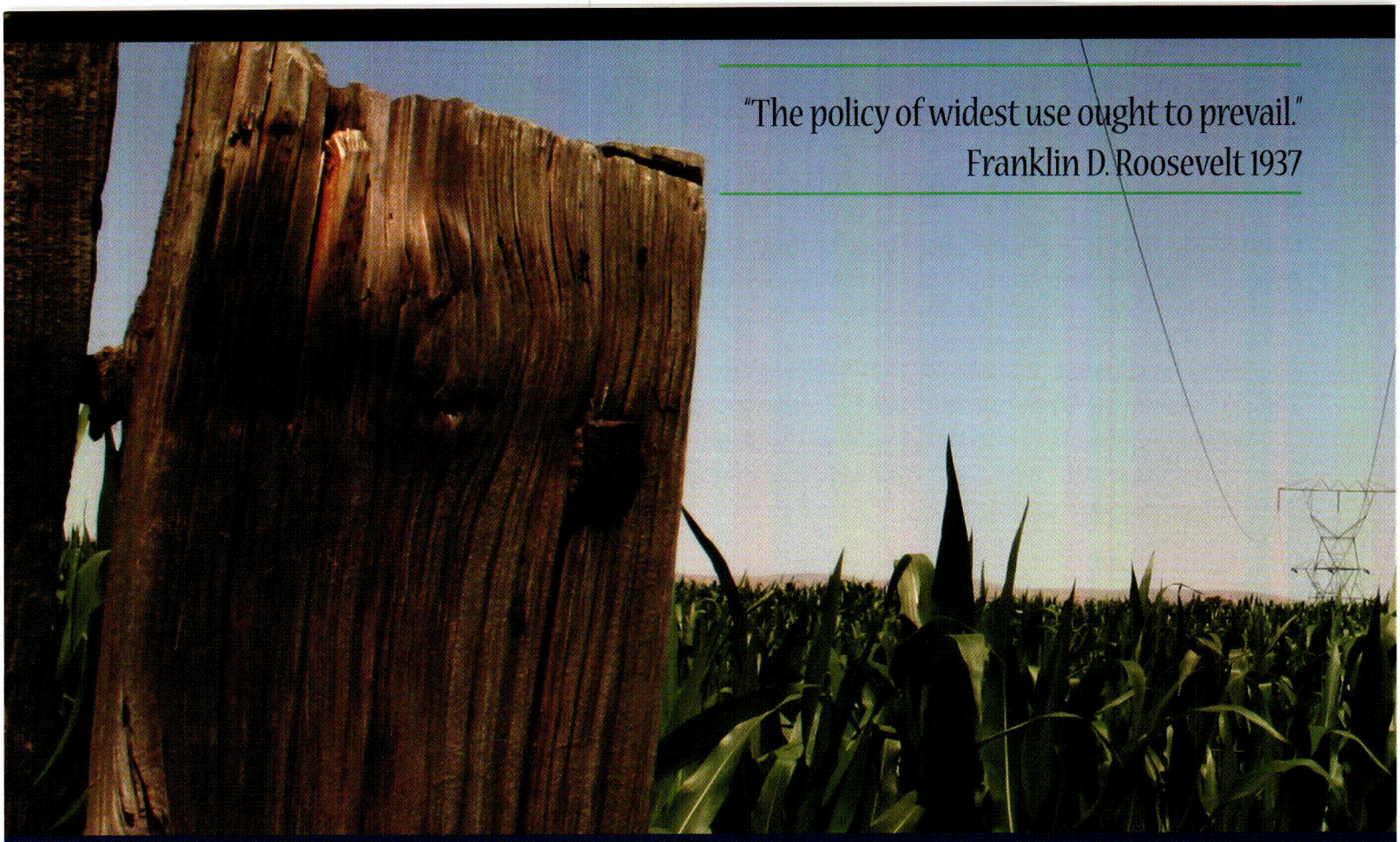
Energy Northwest has been at this work since 1957. As an organization, we have experienced great successes and projects that never came to fruition. Through it all, we have never lost sight of the public power vision and overarching purpose to serve. They have been our inspiration for nearly 50 years, and we look forward to another half century of service to the Northwest.

Respectfully,

Joseph V. (Vic) Parrish
Chief Executive Officer
Chief Nuclear Officer

Edward E. (Ted) Coates
Chairman, Executive Board
June 2003 – June 2006





"The policy of widest use ought to prevail."
Franklin D. Roosevelt 1937

Energy Northwest:

A logical outgrowth of the public power vision.

As early as the 1920s, rural Washington existed without electricity while the state's urban centers thrived through the ready availability of affordable power. The two populations were not only divided geographically, but also in time. While urban centers enjoyed the conveniences, efficiency, and economic advantages of the 20th century, rural residents were still mired in the previous one. That inequity spurred vocal expressions of need that were heard in the other Washington. President Roosevelt responded by establishing the Rural Electrification Administration and signing the Bonneville Project Act in the late 1930s to encourage "the widest possible use of all electric energy." In the ensuing decades, public power activists held fast to their vision of affordable power for the region. Formation of public utility districts and the Bonneville Power Administration lent weight to their cause.

By the mid-1950s, a number of PUDs had recognized the need to form a jointly managed agency devoted to the development of new generation resources, thereby ensuring a ready supply of power for participants. Established by state law in 1957, that agency is known today as Energy Northwest.

Environmentally friendly power

From the beginning, Energy Northwest has embraced the public power vision, seeking out generation resources that would bring the greatest benefit to the region. After extensive research, exploration, and due diligence, the company identified a small hydroelectric project tucked away in the Gifford Pinchot National Forest as its first project. Unique among other hydroelectric plants for its topography, the Packwood Lake Hydroelectric Project took full advantage of its extraordinary setting. An

The public power movement in Washington ensured the electrification of rural areas.

Steve Wotruba, Manager, Energy/Business Services O & M/Professional Services, and Dan Ross, Packwood Lake Hydroelectric Project Manager, at the stilling basin.

1800-foot underground drop structure transports water from Packwood Lake to the plant, creating 780 psi at the turbine. Power plant structures at the lake are limited to a small diversion structure and intake dam. After the water passes through the turbine, it is discharged to the Cowlitz River by way of a 6,670 foot tailrace canal.

Since commercial operation began in 1964, the plant has produced over 3,920,505 megawatt hours of electricity. In Fiscal Year 2006, production totaled 85,215 net megawatt hours. Packwood operates smoothly and dependably, with minimal impact on the environment. The station is designed to generate 27 megawatts, roughly enough electricity to power 27,000 homes. In 2004, work began on re-licensing the plant for another 50 years. The current 50-year operating license expires in 2010, and formal re-licensing application will be made in 2008.

Brave new world

While much of the work done on the Hanford Reservation in southern Washington state from 1945 to 1988 revolved around plutonium production for bombs, Energy Northwest leaders saw another opportunity there. Why not tap into the ready supply of waste steam from the N-Reactor and use it for a peacetime application—electricity generation? This innovative thinking resulted in construction of the 860-megawatt Hanford Generating Plant (HGP). Federal legislative approval for the project was granted in September 1962. President

On September 26, 1963, President John F. Kennedy presided over the groundbreaking for the Hanford Generating Plant. Energy Northwest archive.

EES Consulting, Inc. has conducted numerous fish studies as part of the Packwood Project re-licensing effort.
Photo courtesy EES Consulting, Inc.

John F. Kennedy presided over the groundbreaking ceremony for the new plant in September 1963. HGP was designed and built adjacent to the N-Reactor, Hanford's only "dual-purpose" reactor. HGP tapped N-Reactor waste steam to spin twin generators.

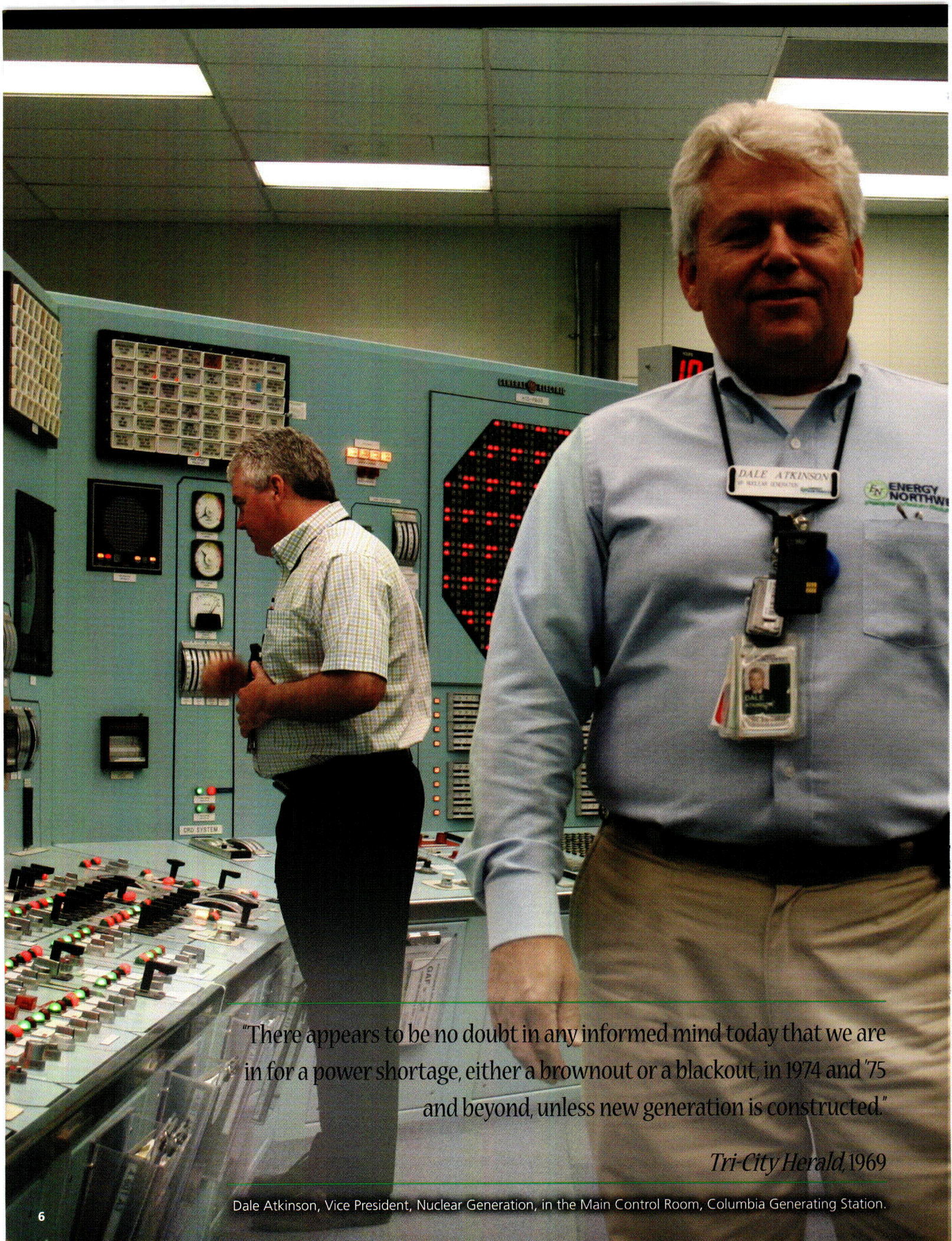
When it began operation in 1966, HGP was the largest nuclear powered electrical generation plant in the world. During its lifetime, it produced over 65.9 billion kilowatt hours. Energy Northwest operated the plant at 99 percent availability, meaning the plant was producing power 99 percent of the time N-Reactor was producing steam.

HGP was mothballed in 1987, but with the expectation that the N-Reactor steam supply would be restored. In 1988, DOE announced the permanent shutdown of N-Reactor. From 1988 to 1992, Energy Northwest explored possible other steam sources (natural gas, coal, and biomass), but none was found to be cost effective. The site was restored to its pre-operating state in 2004.

Packwood Lake Hydroelectric Project and Hanford Generating Plant are a seminal part of the Energy Northwest legacy and stand as testimony to the power of a shared vision.

"From those early days, there was great evidence of the pioneer spirit that fueled the electrification of the Pacific Northwest. We are all so proud to have played a role in that movement."

Commissioner Vera Claussen
Grant County Public Utility District



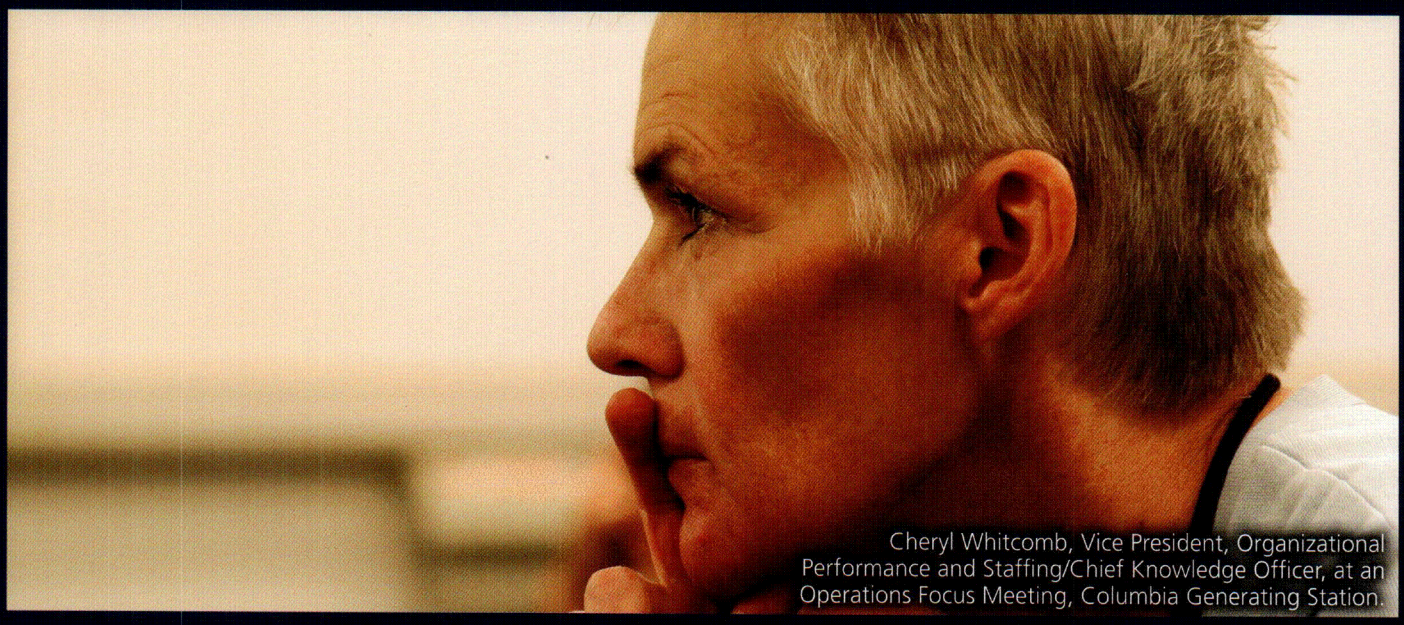
"There appears to be no doubt in any informed mind today that we are in for a power shortage, either a brownout or a blackout, in 1974 and '75 and beyond, unless new generation is constructed."

Tri-City Herald, 1969

Dale Atkinson, Vice President, Nuclear Generation, in the Main Control Room, Columbia Generating Station.

Columbia Generating Station:

Powerful addition to the hydro-thermal program



Cheryl Whitcomb, Vice President, Organizational Performance and Staffing/Chief Knowledge Officer, at an Operations Focus Meeting, Columbia Generating Station.

In just three decades, from the 1940s to the early 1970s, the population in Washington grew by 60 percent. Steady increases in the on-demand electricity usage rate made it clear that new generation resources would be needed. Because the cost of building a new hydro or thermal plant is steep, utilities worked closely with the Bonneville Power Administration in planning the development, location, and use of these resources. BPA continued to manage bulk transmission, peaking capacity, and reserves. Taking full advantage of unique natural resources, public utilities and the federal government acted together as a single utility to develop one of the most effective regional electrical systems in the country.

Today, that system comprises 31 hydroelectric plants and Columbia Generating Station, the only commercial nuclear power plant in the Pacific Northwest. Because hydroelectric plant operations are subject to shifting water levels, the idea was to anchor the system reliability with a large thermal resource. After much research, hand wringing, and debate, the proponents of nuclear power won the argument. Construction began on the 1250-megawatt plant in 1972 and it was dedicated in 1983. During that time, Energy Northwest set about the daunting task of assembling the resources to run the new plant. The first fuel was loaded in December 1983, and after a few false starts, full-scale commercial operation began in July 1984.

The decision to build the plant is netting big dividends today. Recently surpassing its longest run record of 393 continuous days, Columbia Generating Station output accounts for nearly one-tenth of the Bonneville Power Administration grid. As such, it is of enormous importance to the region. The plant's output dollar value is well over $1 million a day.

Plant operation has improved steadily over the last two decades, as evidenced by successively longer generation runs and migration to an 18-month refuel cycle in 1999 and a 24-month cycle in 2002. A highly successful dry cask storage program was implemented that same year. To date, the station has offloaded 1,020 fuel assemblies into 15 shippable casks that currently reside in a special, high security area just west of the plant. The next campaign is scheduled for 2008 when a total of 12 casks will be loaded.

Scott Oxenford, Vice President, Technical Services, atop Cooling Tower 2A, Columbia Generating Station.

This ongoing program is critical to the successful continued operation of Columbia Generating Station, as it frees up necessary space within the spent fuel pool adjacent to the reactor vessel.

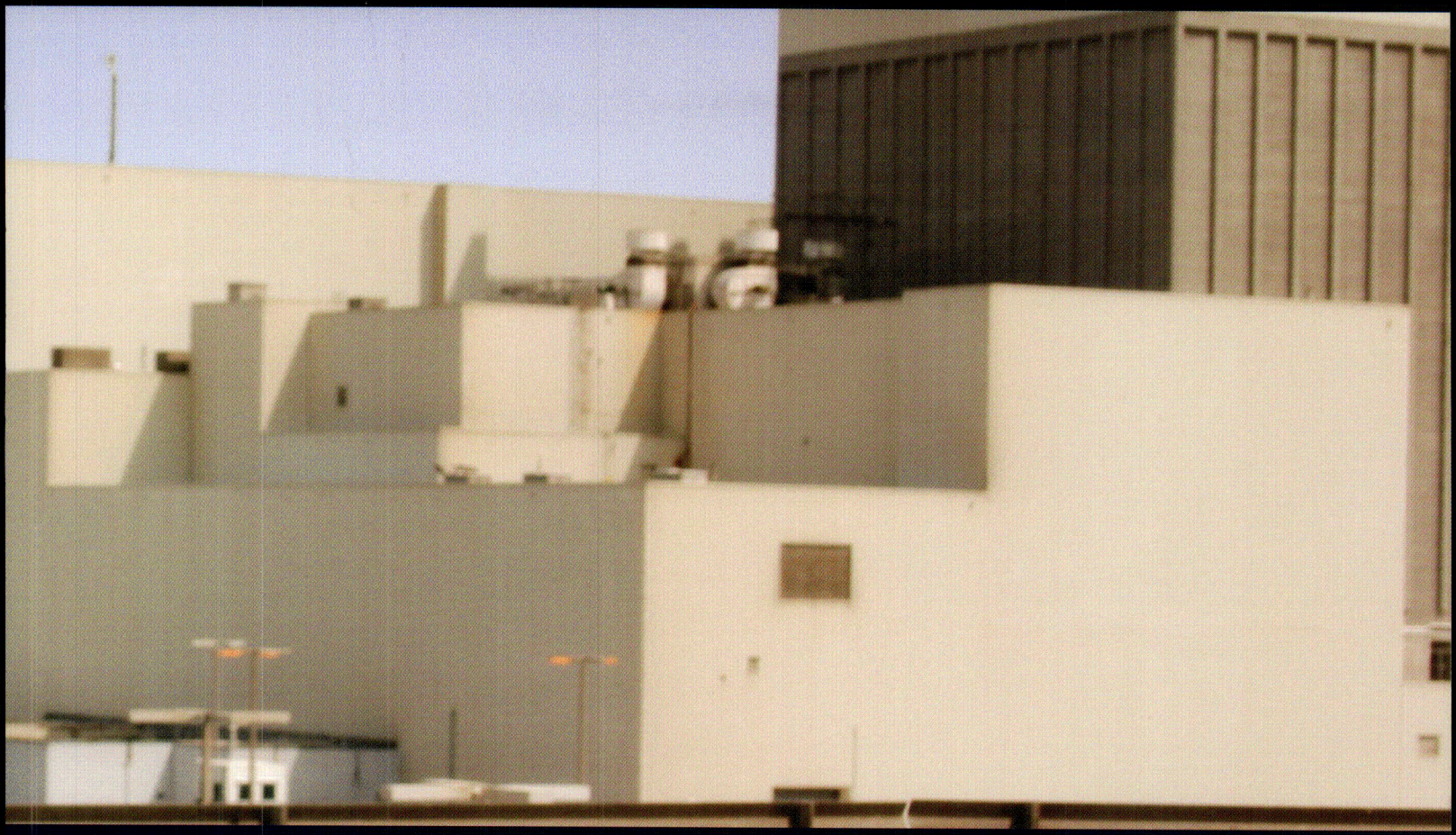
Columbia Generating Station produced 9,636 net gigawatt hours of electricity for the region in Fiscal Year 2006, at a cost of $.0212 per kilowatt hour. In addition to raising the bar on the longest continuous run, the station logged a number of noteworthy achievements. Energy Northwest's Operations and Engineering Training programs were re-accredited and a Trek to Excellence initiative resulted in noteworthy performance improvements. With permission from the Nuclear Regulatory Commission, station personnel successfully completed the first emergency diesel generator maintenance while the plant was still online. Work crews stemmed in-leakage in the main condenser and performed maintenance on critical service water pumps, as well as online maintenance of station batteries. Outage management began planning for refueling outage 18 immediately following the last outage in mid-2005 with an in-depth assessment of what worked and what did not. Refueling outage 18 is scheduled to begin in May 2007 and last for 38 days. The scope of work is ambitious and reflective of the need to address certain critical systems at this stage in the plant's history.

The necessary element

By early 2002, Energy Northwest had begun the transition from spot purchase fuel procurement to a strategic mix of spot and long-term fuel procurement contracts. This program has had an enormous impact on the station's fuels costs for the period from 2003 to 2015. The costs of the enriched uranium product used at the station have effectively been reduced by $128 million, compared with purchasing solely on the spot market. In addition to agreements covering spot and long-term procurement, Energy Northwest has enacted a program of fuel swaps, exchanges, and leases, as well as a uranium tailings recycling pilot project. The combined market value of these initiatives is over $500 million in direct savings to ratepayers.

A nod from the financial sector

Energy Northwest returned to the bond market in March 2006 for an unprecedented, 100 percent



uninsured, $907,475,000 bond sale, one of the largest in agency history. It comprised two tax-exempt fixed rate series and two taxable fixed-rate series bonds. Sale proceeds were applied to the Debt Optimization Program, the debt extension plan, and traditional refunding to the same maturity date for savings.

Re-licensing the station

Because of Columbia Generating Station's value to the region, Energy Northwest leaders are working closely with the Bonneville Power Administration to clear the way for re-licensing the plant for another 20 years. The current operating license expires in 2024. While this process is costly, the Nuclear Regulatory Commission has condensed the overall timeline, and has granted extended licenses to 42 reactors to date.

Addressing maintenance issues

Over the next several years, Energy Northwest will address a number of critical maintenance issues that other plants of like age have faced. Management has retained the services of Sargent & Lundy LLC to perform a feasibility study of proposed modifications to the main condenser. Renown in the industry, Sargent & Lundy has consulted at five other U.S. nuclear stations of similar design. In the meantime, plant management has taken a number of steps to address recurring condenser leaks caused by a variety of factors.

For planning purposes, the results of the feasibility study will be published prior to the Fiscal Year 2008 budgeting cycle. Management will also work to correct the performance of an electro-hydraulic control system that regulates the turbines. This work has already begun and is scheduled to be completed by June 2007.

Energy Northwest is wholly committed to the continued excellent performance of Columbia Generating Station for many decades to come. Thanks to a stellar cast of managers and operators, the plant has proven itself to be a highly reliable generation resource. It stands as a testimony to the vision of those early leaders and the genius of the hydro-thermal model.

"This was a great year for Energy Northwest. We at the Bonneville Power Administration want to thank you, not only for Columbia Generating Station's record run, but also for the extraordinary partnership between our two agencies. Both have provided substantial benefits to the Northwest. For example, a new agreement between Energy Northwest and BPA that allows BPA to directly pay Energy Northwest's operating and debt service expenses has improved

Photo courtesy of Bonneville Power Administration.

The 1250-megawatt Columbia Generating Station at sunrise.

BPA's liquidity and contributed to lower wholesale electric power rates. In addition, last March, Energy Northwest and BPA conducted a bond sale without AAA bond insurance, marking the first time in several years that an entire issue of bonds was sold only on the basis of the credit strength of our two agencies. The teamwork and professionalism between our staffs have made a powerful contribution to the confidence demonstrated not only by investors and ratings agencies (who gave both of our agencies positive ratings), but also by our customers. Most importantly, in the end, the Northwest economy benefits from the collaborative partnership that exists between Energy Northwest and BPA."

Stephen J. Wright
Administrator and Chief Executive Officer
Bonneville Power Administration

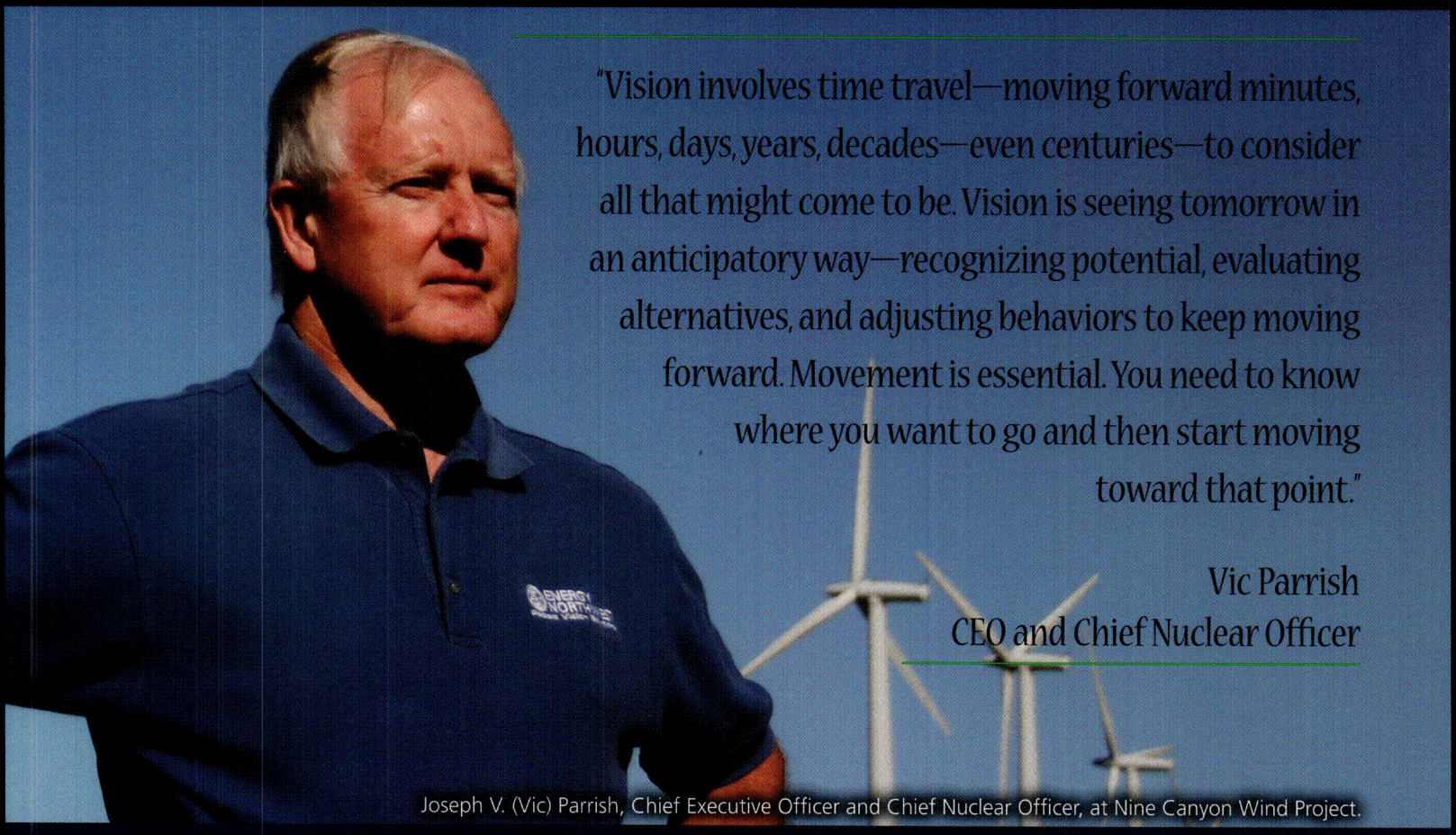
A renewable vision
and the power of diversification

In March 1992, Joseph V. (Vic) Parrish was recruited to fill the position of assistant managing director of operations for both Columbia Generating Station and Packwood Lake Hydroelectric Project. A retired U.S. Naval officer, Parrish had more than 26 years of nuclear and management experience and hailed from Mississippi Power & Light's Grand Gulf Nuclear Station where he had served as manager of plant operations.

Four years after joining Energy Northwest, Parrish was named to the agency's top job of managing director and CEO. Under his leadership, Columbia Generating Station ran better and for longer periods than ever before. In addition to improving overall performance, he reduced operating costs and garnered praise at both the regional and national agency levels for his work.

A whole new ball game

While gratified with the improvements at Columbia Generating Station, Parrish and Energy Northwest's governing boards had set their sights on expansion and diversification—of both generation resources and services. In 1999, Parrish challenged his management team to come up with 100 megawatts of renewable power by 2004. Three short years later, Energy Northwest was well on its way toward achieving that goal. In late September 2002, public power leaders, government officials, staff, and the general public gathered to dedicate the 37-turbine Nine Canyon Wind Project (Phase I). Just over one year later, 12 more 1.3-megawatt turbines were added to the project (Phase II), upping the capacity to 63.7 megawatts and making it one of the largest publicly owned and operated wind projects in the country.

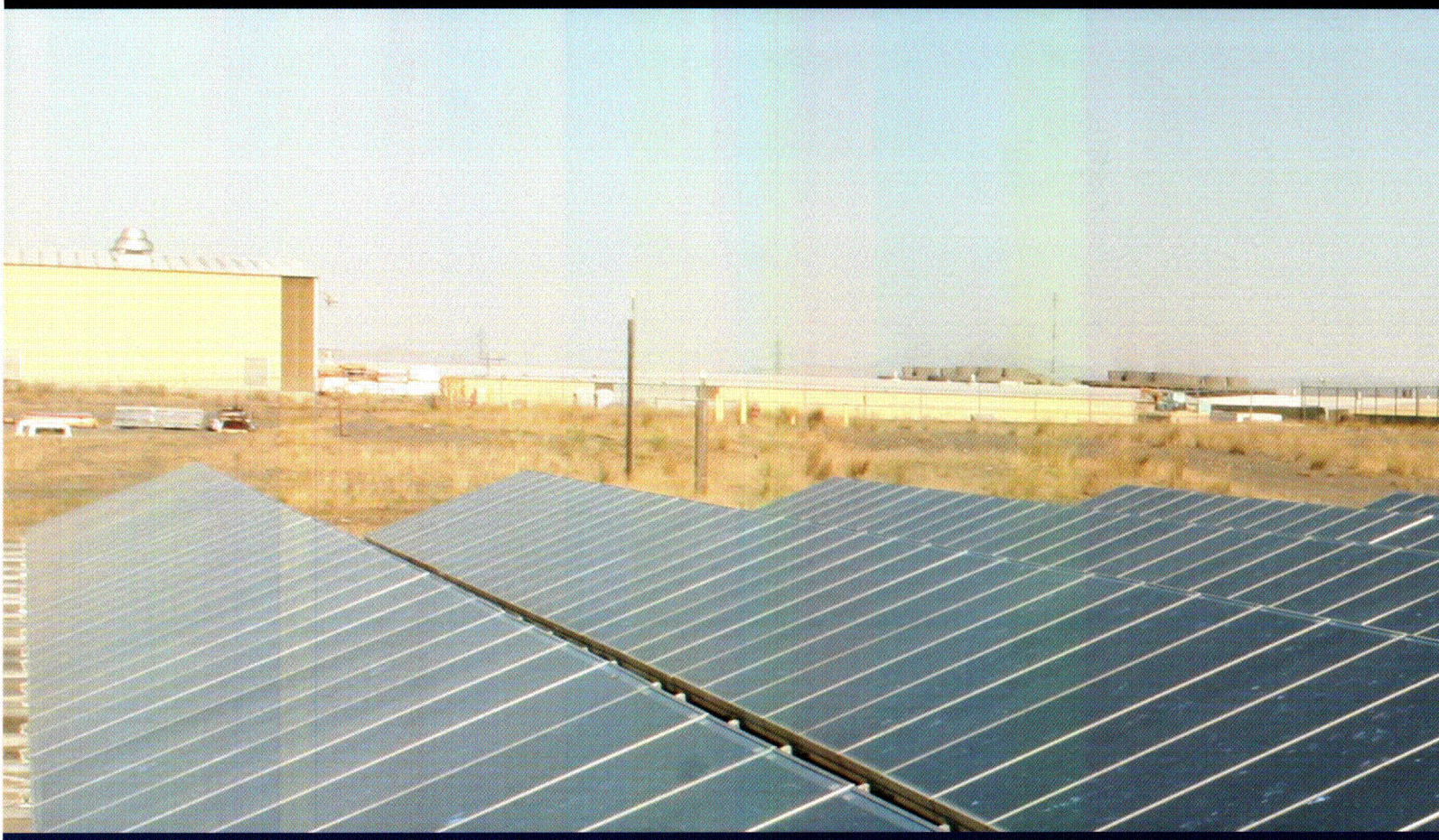


Joseph V. (Vic) Parrish, Chief Executive Officer and Chief Nuclear Officer, at Nine Canyon Wind Project.

Nine Canyon Wind Project

Nine Canyon Wind Project continues to perform admirably—and at 98-99 percent availability. All renewable energy projects are subject to changing weather conditions, making it essential that they be available (in service) to produce power as much of the time as possible. In spite of the challenges of having to replace defective main bearings and gearboxes, the station produced 158,338 net megawatt hours of electricity in Fiscal Year 2006. Station output supports approximately 20,000 households, based on the Northwest average for residential consumption.

The undisputed success of Phases I and II encouraged Energy Northwest's Energy/Business Services group to begin work in 2003 on final expansion of the Nine Canyon site. The plan calls for the addition of 32 megawatts of power, bringing total site production capacity to 95.9 megawatts. Following Board of Director's approval in April 2006 to proceed with the project, Energy Northwest began marketing the Phase III power. To date, 100 percent of the output has been sold to Phase I and II participating utilities. Developers are using the new competitive procurement process recently authorized for renewable projects which will determine the manufacturer,

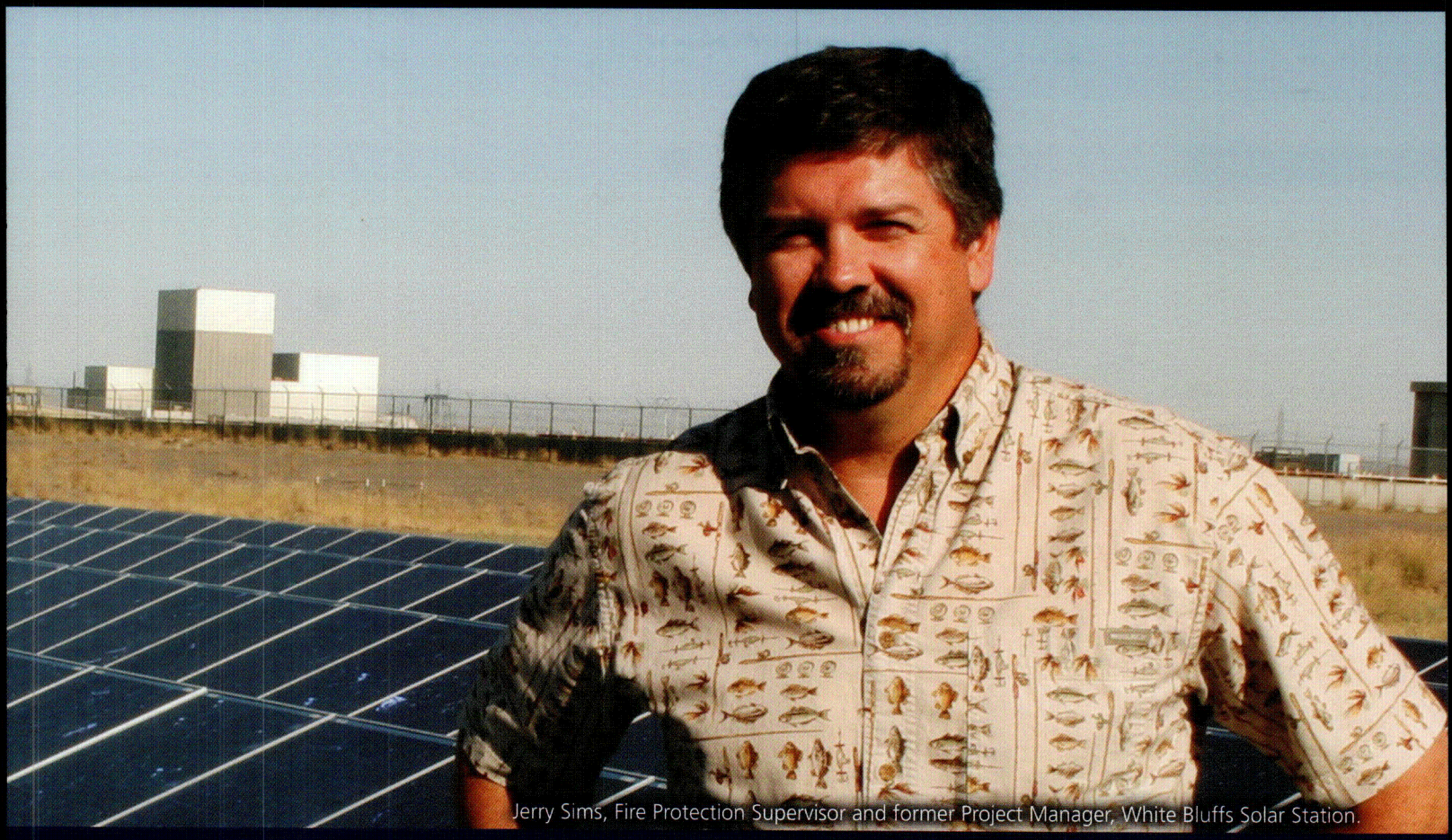


number and size of the new turbines. As with Phases I and II, the project will be financed with municipal bonds. Commercial operation is scheduled to begin in March 2008.

Parallel with development at Nine Canyon, Energy/Business Services identified a promising wind site in the Reardan-Edwall area just west of Spokane, Washington. Situated on private land atop twin buttes and close to existing BPA transmission lines, the site offers a 55-megawatt capacity. Energy Northwest began actively marketing the power following Board of Director's approval to proceed with the project in October 2005. To date, all of the output has been subscribed by six public power utilities. Purchase agreements are now being finalized; however, construction will likely not occur before 2009.

In developing Phases I and II of the Nine Canyon Wind Project, Energy Northwest took advantage of U.S Department of Energy Renewable Energy Production Incentives, thereby reducing the overall cost of the project by $5.3 million to date. The production incentives are applied over a ten-year period extending from initial commercial production. As part of the Energy Policy Act of 2005, the federal government authorized the issuance of Clean Renewable Energy Bonds (CREBs) for two years beginning in 2006. CREBs provide electric cooperatives and public power systems a development incentive comparable to production tax credits available to private developers. Because both the Nine Canyon Phase III and Reardan Twin Buttes projects qualify, Energy Northwest has made application for these bonds; however, due to the $800 million cap, the overwhelming number of applications received, and the allocation requirements under the Energy Policy Act, approval is not guaranteed.

Concurrent with development of the initial phase of the Nine Canyon Wind Project, Energy Northwest leadership worked with the Bonneville Environmental Foundation, Bonneville Power Administration, U.S. Department of Energy, and Newport Northwest LLC to develop a 37.8-kilowatt solar demonstration project just south of Columbia Generating Station. In May 2002, the 242-photovoltaic-panel White Bluffs Solar Station was installed on an existing concrete pad and using existing transmission infrastructure. It has performed virtually maintenance free ever



Jerry Sims, Fire Protection Supervisor and former Project Manager, White Bluffs Solar Station.

since. In FY 2006, the station produced 50,405 net kilowatt hours of electricity, all of which was sold to BPA. Energy Northwest shares station production data and other statistics with BPA, Salem Electric, and the city of Ashland, Oregon.

From the time that CEO Parrish first made clear his vision of resource diversification, project developers have evaluated a number of promising technologies—from fuel cells to biomass. While some of these early efforts have not proved to be economically expedient, they have been invaluable in terms of building a repository of technological knowledge.

Growing the service menu

Working closely with member utilities, Energy/Business Services sought to identify a list of services that would offer real benefit based on economy of scale. The idea was to tap into valuable existing employee skill sets and provide job enrichment through deployment to other projects, thereby maximizing the use of these resources.

The watchword of the Business Services group is responsiveness. If members express a need and a good business case can be made, the service is provided. In this way, the current service menu has come to include operations and maintenance, construction, project management, engineering, calibration, renewable energy credit, and environmental services, all marketed under the Energy/Business Services umbrella. The group also responds to special projects such as substation acquisition, completed in November 2005, which resulted in local ownership by four member utilities of former BPA substations. In addition to a wide array of services, utility products such as SCADA systems and defibrillators are offered through Hometown Connections, an American Public Power Association subsidiary.

Current operations and maintenance customers include the H.W. Hill Landfill Gas Power Plant for Klickitat PUD and the Olympic View Power Plant for Mason County PUD #3. The H.W. Hill plant recently completed the best fiscal year in its history, averaging 9.135 megawatts of load and resulting in production of an additional 3,616 megawatt-hours of electricity with a 0.41 aMW increase in average station load. This success is attributed to major engine overhauls and installation of a new gas cleaning system.

The wisdom of environmental stewardship

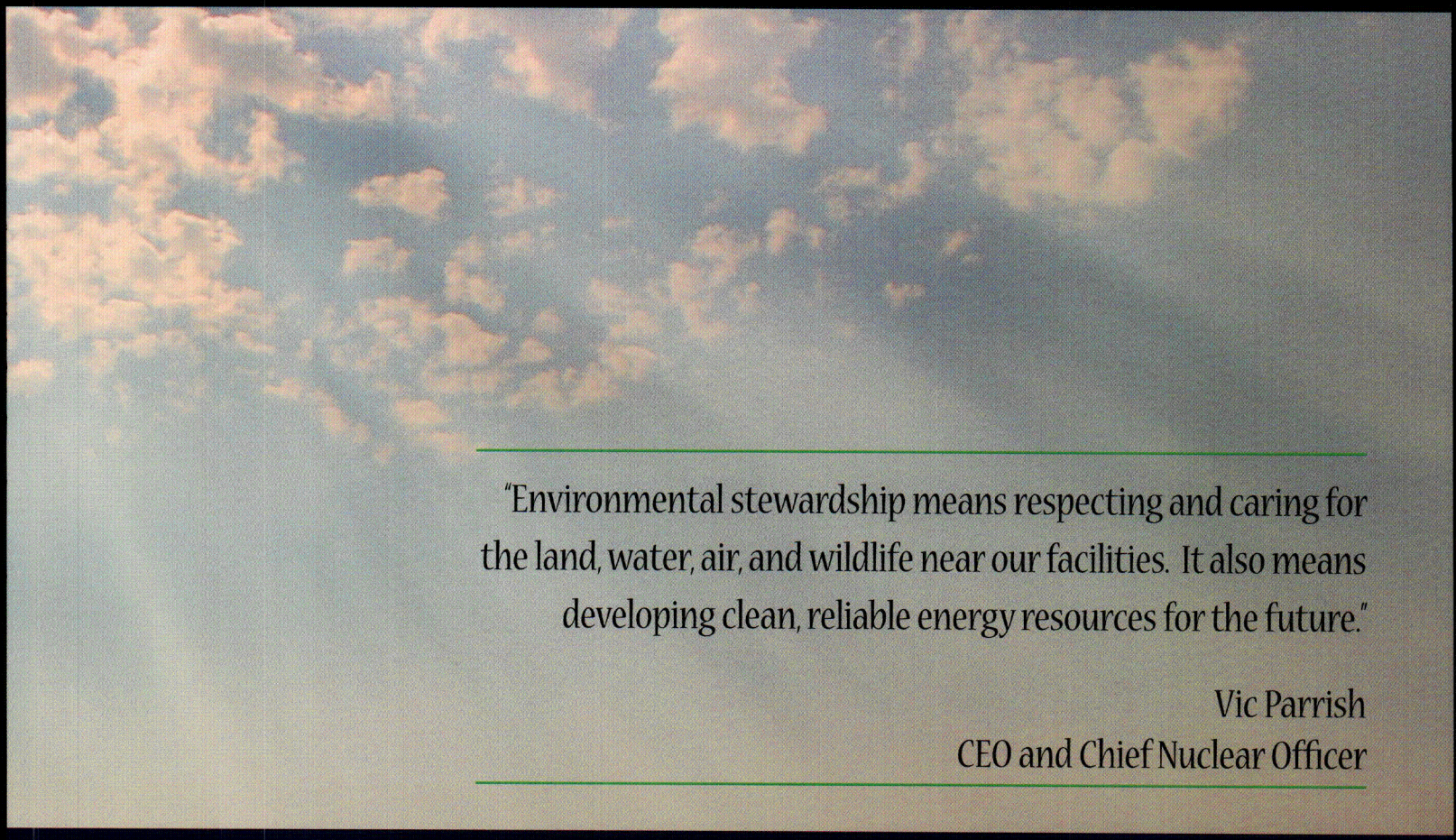
and realization of the Energy Northwest Environmental Management System

In July 2003, CEO Vic Parrish sent a message to all Energy Northwest employees, making clear his intention to establish an Environmental Management System (EMS). He backed it with the resources necessary not only to implement the program, but to ensure International Standards Organization (ISO) 14001 certification. Both governing boards resoundingly endorsed the new initiative which was codified in organizational policy.

Management recognized the need to create and foster an organizational culture that promoted consideration of the environment in all aspects of daily life, personal and professional. In rolling out the program, leaders encouraged employees to think not just about the impact of present actions and decisions, but also the impact on future generations.

Energy Northwest's EMS policy stresses the importance not only of doing no harm, but also of working to improve the environment. It extends beyond compliance with the law and emphasizes pollution prevention by avoiding the use of hazardous materials, conserving water and energy, and recycling. The EMS encompasses all Energy Northwest operations.

To date, Energy Northwest has participated in two rigorous EMS audits. As evidence of the serious organizational commitment to the program, in March 2005, Energy Northwest's EMS achieved ISO 14001:1996 registration. In March 2006, the program satisfied more stringent requirements to achieve the new standard, ISO 14001:2004 registration. The recommendation for certification was made by a team of auditors from NSF-ISR, an independent



"Environmental stewardship means respecting and caring for the land, water, air, and wildlife near our facilities. It also means developing clean, reliable energy resources for the future."

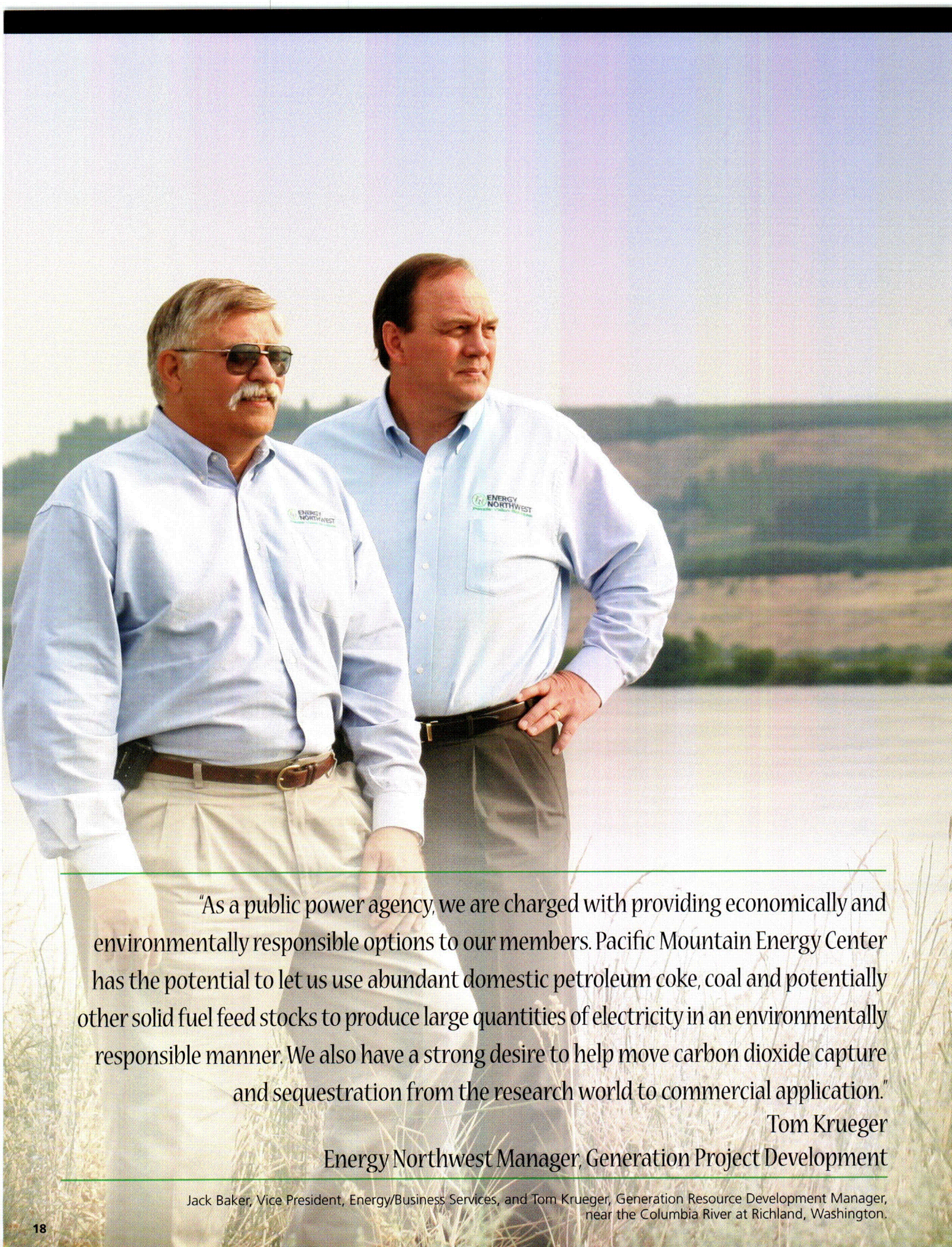
Vic Parrish
CEO and Chief Nuclear Officer

third-party environmental review firm from Ann Arbor, Michigan, after a surveillance review of how Energy Northwest manages its EMS.

ISO 14001 is a globally-recognized standard designed to help companies build effective environmental management systems and reduce the environmental impact of their operations. It requires an organization to identify potential environmental impacts and establish controls to appropriately minimize those impacts, monitor environmental performance, and establish a formal process for continually improving the system.

Leading corporations around the world, and the agencies that regulate them, recognize the development of formal environmental management systems as key to improving compliance, enhancing innovation, and reducing both risks and costs. Energy Northwest will continue to participate in annual audits to ensure that the ISO 14001 standard is maintained.

Implementation of the EMS was made with well-defined expectations, including improved environmental performance and efficiency, reduced risk, and increased credibility and public confidence. Environmental stewardship is a sound business practice. The program has established Energy Northwest as a regional and national leader among energy companies in environmental management and stewardship. But most importantly, the ongoing commitment to environmental management means doing what is right for the community and leaving a positive legacy for generations to come.



"As a public power agency, we are charged with providing economically and environmentally responsible options to our members. Pacific Mountain Energy Center has the potential to let us use abundant domestic petroleum coke, coal and potentially other solid fuel feed stocks to produce large quantities of electricity in an environmentally responsible manner. We also have a strong desire to help move carbon dioxide capture and sequestration from the research world to commercial application."

Tom Krueger
Energy Northwest Manager, Generation Project Development

Jack Baker, Vice President, Energy/Business Services, and Tom Krueger, Generation Resource Development Manager, near the Columbia River at Richland, Washington.