

STRIKING A BALANCE BETWEEN ENERGY AND THE ENVIRONMENT IN THE COLUMBIA RIVER BASIN



Idaho Power's New Gas-fired Plant Will Help Balance Variable Wind Power

Near the farming community of New Plymouth in southwestern Idaho, a new natural gas-fired power plant promises long-term, low-cost electricity to customers

of Idaho Power Company with the added benefit of helping to tame the wild child of the energy world, wind power.

The Langley Gulch Power Plant will help the utility integrate growing amounts of renewable energy, including highly variable wind power, into its system. The plant is capable of producing enough power for about 208,000 homes.

At a dedication ceremony in June, just two days before the plant officially left the test

stage and went into commercial production, Idaho Power's chief executive officer, J. LaMont Keen, reflected on how far the company has come since it formed in 1916 and acquired its first generator, the Swan Falls hydropower dam, on the Snake River.

"At that time, hydroelectric generation was all we had, and it was enough," Keen said. "In fact, it was enough to power the region's growth for decades, and it still provides most of the electricity our customers use.

> In this issue

03 **Notes from the Chair** > by Council Chair Rhonda Whiting

04 **A Chance to Reclaim Prime Salmon and Steelhead Habitat**

06 **Energy Efficiency Hits a New High in 2011**

07 **Northwest Q & A** > Interview with Charlie Black

11 **Council Decisions** > Updates on Council progress in June and July 2012



The new plant can generate enough power for more than 200,000 homes.



Idaho Power CEO J. LaMont Keen called energy the “oxygen of the economy” in dedicating the Langley Gulch power plant. Photo: Idaho Power.

But our responsibility to provide reliable, around-the-clock electric service to our customer base eventually required us to secure other energy sources.”

Langley Gulch is a combined-cycle plant that uses the heat generated by the primary turbine to run a secondary turbine, increasing the plant’s efficiency. The plant uses water from the Snake River eight miles to the south for cooling — about 1,300 gallons per minute, or about the same volume that would be used in that area of southeastern Idaho to irrigate 40 acres.

Providing new sources of energy is an investment in the future of both the communities served by the Boise-based utility and for the larger region, a point Keen noted in his remarks. Energy “is the oxygen of the economy,” he said. To keep the economy breathing, the company regularly updates its long-term plan for meeting growth in demand. The power plant that became Langley Gulch has been in Idaho Power’s long-term resource plan since 2004 — initially as a 500-megawatt coal-fired plant. Over time, the company continued to update

the plan based on what was happening in the energy markets.

“Concern about the cost of coal, and the uncertainty of future environmental regulations, combined with the abundance of natural gas and availability of more efficient gas technologies, prompted us to switch gears,” Keen said at the dedication ceremony. “By 2008 we settled on a combined-cycle combustion turbine. It’s probably the most efficient, modern plant in the Northwest right now. When you consider that three years ago this site was just an expanse of grass and sagebrush with a few cattle wandering by now and then, you can see that we’ve come a long way in a relatively short period of time.”

Construction of the 300-megawatt, \$400 million power plant and associated transmission lines began in 2010. The remote site south of Interstate 84, nine miles east of the Idaho/Oregon border



is conveniently located near interstate transmission lines for electricity and natural gas. The state's largest population center, Boise and its suburbs, is just 50 miles to the east, a short distance in terms of power transmission.

New power plants are expensive, even state-of-the-art plants like Langley Gulch, and even at a time, like now, of low prices for the natural gas that fuels the plant. On June 29, the Idaho Public Utilities Commission approved a \$58 million increase in annual revenue to pay for the Langley Gulch plant. The average rate increase for all customers is 6.8 percent.

Idaho Power generates most of its power at its hydroelectric dams on the Snake River, but about 40 percent comes from coal-fired power plants in Utah and Wyoming. That amount will decrease with cleaner-burning, lower-emission power from Langley Gulch. ■



Notes From the Chair

This edition of the CQ showcases a new energy resource in the region. This summer, many of us were on hand as Idaho Power dedicated the opening of its new gas-fired plant in southwestern Idaho. The plant, one of the most efficient in the country, will help produce

a reliable supply of electricity for customers, and it should also complement the wind turbines on the utility's system. Highlighting the need to meet growing peak needs, the week of the dedication saw near-record breaking demand as temperatures hit triple-digit levels.

And speaking of records, energy efficiency, which is now the region's third largest resource, hit a new record in 2011--280 average megawatts, enough to power 188,000 Northwest homes. It's energy that's low-cost and clean, so we're pleased to report on this great news, too.

Also in Idaho, you'll read about a fish and wildlife project that will keep more water in a spring-fed tributary known for being a big salmon producer. Irrigation diversions will be switched to another creek, which should help restore the clean, clear water and habitat so crucial to salmon.

And the power division's new director, Charlie Black, sat down to talk about his goals for the division, his take on the energy challenges we face, and what trends and issues are likely to shape the next power plan.

Rhonda Whiting

Council Chair Rhonda Whiting

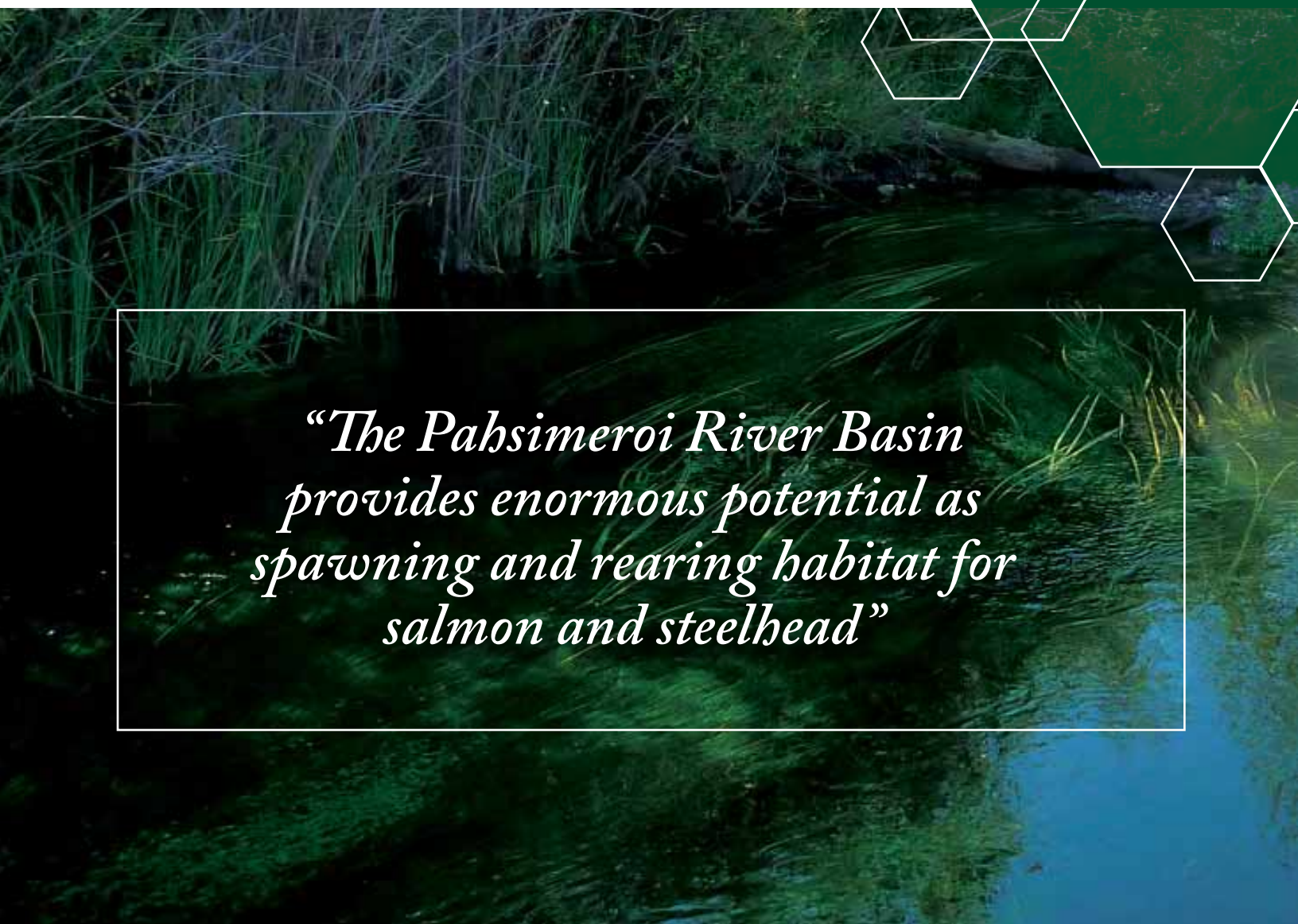


With More Water for Idaho's Patterson Big Springs Creek, a Chance to Reclaim Prime Salmon and Steelhead Habitat

Spring Chinook salmon and steelhead, threatened species that spawn in the high mountain river basins of central Idaho, will benefit from a water transaction that will switch the water supply for a ranch irrigation system from one creek to another, boosting flows and improving habitat in a remote stream where the fish are known to spawn.

The Bonneville Power Administration is funding, through the Council's fish and wildlife program, a 20-year agreement to halt irrigation water diversions from Patterson Big Springs Creek, a tributary of the Pahsimeroi River, and create a new diversion from Mayrick Creek five miles away. Water that used to be diverted from Patterson

Big Springs Creek will remain in the stream, boosting flows by six cubic feet per second and improving access to spawning and rearing habitat.



“The Pahsimeroi River Basin provides enormous potential as spawning and rearing habitat for salmon and steelhead”

Switching the source of irrigation for the Big Springs Ranch is the final piece of a project to remove barriers to waterflow in the creek. Project partners, including the Idaho Water Resources Board and Department of Fish and Game, the National Fish and Wildlife Foundation, Custer Soil and Water Conservation District, and land owners, forged a successful collaboration to improve irrigation efficiency and access for salmon and steelhead.


For about 100 years, irrigation withdrawals left little water in the creek during the summer irrigation

and salmon spawning seasons. During drought years, it was drained dry. Historically, the creek was a big salmon producer. One early rancher told her children and grandchildren that the sound of salmon spawning was like the sound of horses splashing across the creek.

“The Pahsimeroi River Basin provides enormous potential as spawning and rearing habitat for salmon and steelhead,” said Andrew Purkey, director of the Western Waters Program for the National Fish and Wildlife Foundation. “Patterson Big Springs Creek in particular provides cool, clean spring

water, and as the successive projects have been completed, we’ve seen Chinook salmon immediately utilize the newly accessible habitat.”

Water transactions are part of the federal salmon recovery plan, which directs Bonneville to fund water acquisitions in subbasins like the Pahsimeroi (the river is tributary of the Salmon River, which flows into the Snake River, the largest tributary of the Columbia) where water quantity has been identified as a factor limiting natural production of salmon and steelhead. ■



The diversion, flowing to the right in this photo, will be closed leaving more water in Patterson Big Springs Creek to improve habitat for salmon and steelhead. Photo: National Fish and Wildlife Foundation.



Energy Efficiency Hits a New High in 2011

In 2011, the Pacific Northwest set a new annual record for energy efficiency improvements — and did so for one-fourth the cost of power from the most efficient new generating plants, according to a survey of the region's electric utilities.

The Northwest developed 280 average megawatts of new energy efficiency, enough for 188,000 Northwest homes.

“These investments are paying off for Northwest electricity consumers, who

benefit more than consumers elsewhere in the country,” Council Chair Rhonda Whiting said.

Energy efficiency has improved by more than 5,000 average megawatts since 1978, an amount that today would power all of Idaho and Montana. Thanks to the improved efficiency, that electricity did not have to be generated at a much higher cost, saving the region's electricity consumers nearly \$2.5 billion in 2011 alone.

“Utilities recognize the value of low-cost, zero-emission energy efficiency,” Whiting said. “At less than 2 cents per kilowatt-hour, efficiency is a great complement to more expensive power from new generating plants.”

The survey was conducted by the Regional Technical Forum, an advisory committee established by the Council

in 1999 to develop standards to verify and evaluate regional energy-efficiency savings. The survey included investor-owned utilities, the Bonneville Power Administration and its customer public utilities, the Energy Trust of Oregon, and associations representing groups of utilities.

The biggest gains were in commercial buildings and industrial facilities, a shift from the recent pattern when the largest new savings were in residences, primarily through the installation of more efficient lights.

The total regional investment in energy efficiency in 2011 was about \$420 million, according to the survey. That amount represents 8 percent of the total national spending on energy efficiency in 2011 (\$5.23 billion), for a region that represents about 5 percent of the nation's population. ■



Charlie Black

Northwest Q & A: *Charlie Black*

Charlie Black, who began work this summer as the Council's new power division director, has 30 years' experience working with or for Northwest utilities in power resource planning, acquisition, risk management, and regulation.

Black's utility experience includes positions at Puget Sound Energy, Tacoma Power, Pacific Gas & Electric Company, and Riverside, California public utilities. He has also worked as a consultant with public and investor-owned utilities in Washington, Montana, Nevada, Rhode Island, and the Bonneville Power Administration.

Black has a combined bachelor's degree in mathematics and economics from Western Washington University, and a master's degree in economics from the University of Washington.

Q. What point of view do you bring to your new job?

My outlook has been shaped by 30 years working at, and providing consulting services for, utilities throughout the West, including large, medium, and small utilities. A lot of what I've done has involved integrated resource planning. I've also worked on resource acquisition,

risk management, hedging, power marketing, and regulatory activities. These experiences have grounded me in the broader contexts for resource planning, including policy and implementation considerations.

Along the way, I've learned that resource planning is multi-faceted and involves tradeoffs among things like cost-effectiveness; low, stable electricity rates; ensuring system reliability; and protecting the environment. To me, much of resource planning is a process of looking for strategies to most effectively achieve multiple objectives.

I've also gained a perspective that power planning is more than a technical exercise to be performed solely by staff at the Council or elsewhere. The most successful resource planning efforts I've been involved in have provided open forums for discussion among a broad range of stakeholders, and the Council is ideally-situated to do this. I see that as a big part of my job.

Continued on page 8

Q. The Council is such a unique agency. What do you consider to be some of its major accomplishments in power planning?

The kind of coordinated regional power planning the Council does is unique, and it works. A key example of this is the past Council plans that have inspired the Northwest to become the national leader in energy efficiency. Largely this resulted from the Council's use of an overall societal perspective to evaluate the costs and benefits of energy efficiency, while treating it as a real resource.

The Council also is a leader in planning for uncertainty. It has recognized the dangers of basing a resource strategy on one set of expectations or forecasts about the future. Instead, the Council has focused on

identifying strategies that work well across a range of possible futures.

In addition, the Council helps the region look five years ahead to see if power resources will be adequate, and addresses issues such as how to integrate variable output from new wind plants into the system.

Q. What kind of approach do you intend to use in this setting?

I see myself and my group as helping to solve puzzles. I am also looking to build upon our role as a credible, objective, and balanced source of information and analysis on regional power planning issues. We provide decision support for the Council members – that is, we help them consider alternatives

and make informed choices about long-term resource strategies for the region. To be truly useful, we also need to engage stakeholders on regional power planning issues and processes. Collaborative efforts will generate additional ideas and insights, while building understanding and support.

Q. How do you intend to make the Council's power planning processes useful and collaborative?

Before joining the Council and on an ongoing basis since then, I have been talking with a number of people around the region to get their ideas and suggestions about ways that my group and I can be most useful. I heard a lot of very positive comments about the high level of expertise and dedication of power

complexity collaboration



The power planning division, back row, left to right: Leann Bleakney (Oregon state staff); Steve Simmons; Charlie Grist; Charlie Black; John Fazio; Tom Eckman; Nick O'Neil; and Ken Dragoon. Front row, left to right: Aggar Assefa; Massoud Jourabchi; Lauren Casey (Montana state staff); Ken Corum; Gillian Charles and Michael Schilmoeller. Not pictured: Howard Schwartz (Washington state staff) and Shirley Lindstrom (Idaho state staff).

coordination balance stakeholders resource strategy

planning division staff. The folks I've talked with also have made a number of really useful suggestions, especially in the area of communications. Making our analytical processes and tools more transparent, providing opportunities for review and comment along the way, highlighting key issues concisely in non-technical language, and using terms that are consistent with industry-standard terminology are some of the suggestions I've heard.

My group can also expand its role as a hub and clearinghouse for information. Since arriving, I've seen instances where multiple entities in the region are doing similar work. There seem to be opportunities to pool our efforts, avoid duplication, and get more eyes to check the data and think about its meaning.

Q. You're currently overseeing a mid-term assessment of the Council's Sixth Northwest Power Plan. What do you hope to accomplish?

The mid-term assessment is a good opportunity to check implementation of the Sixth Power Plan. We're addressing four main topics. First, we're reviewing what's happened during the

last two-plus years. Then we're checking how close we've come to what was projected in the Sixth Plan, including forecasts and the resource strategy. Third, we'll determine whether any mid-course adjustments are needed. Finally, the assessment will identify key issues for the Seventh Power Plan.

Q. How do you view the current energy environment?

I think most people have pretty much given up on the notion that someday soon the energy industry will finally return to a sense of stability and continuity. Instead, we can expect ongoing change. Complexity also is increasing, and that understandably makes people nervous. Utilities are worried about keeping the lights on and rates at reasonable levels. Meanwhile, much of society is concerned about environmental problems such as global climate change.

Q. As we start to think about developing the Seventh Power Plan in 2013, what trends do you think will be important?

There is a lot of interest in having the next power plan address capacity needs, both to meet peak demands and to absorb fluctuating output from the large amounts of wind generation that have been added to the system.

Another growing topic is how to reconcile our regional power plan with the diverse circumstances that individual utilities face. For example, the economics of acquiring energy efficiency vary across utilities. In addition, some utilities are acquiring new generating capacity to meet local needs that have not shown up in the Council's regionwide looks.

Meanwhile, natural gas prices have been quite low. Some people view this as a structural shift that supports increased reliance on gas-fired generation, while others see potential for volatility to return in the future. And there also is a trend toward retiring older coal-fired power plants.

This is just a sample of some of the issues we are teeing up for the Seventh Power Plan. It certainly appears that my group and I have a lot of work to do, and I'm looking forward to it. ■

Montana and Oregon Members to Lead Council



Rhonda Whiting,
Montana Council Member

Rhonda Whiting, a Montana member and vice chair of the Northwest Power and Conservation Council, assumed the chairmanship of the four-state energy and fish and wildlife planning agency in August, taking the place of Oregon member Joan Dukes who resigned at the end of July.

Whiting also previously served as chair of the Council's public affairs committee and also chaired the fish and wildlife committee for a number of years. Whiting is the first woman from Montana to chair the Council and is also the first Native American to serve in the position.

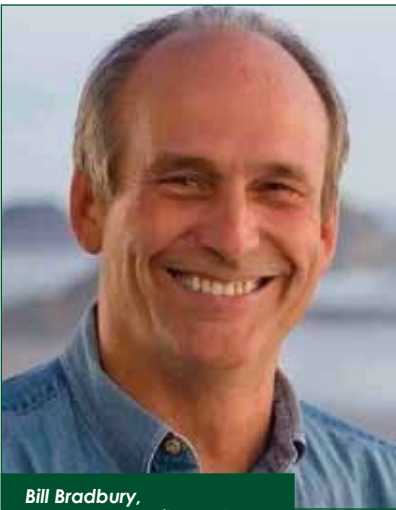
Whiting, from St. Ignatius, Montana and a member of the Confederated Salish and Kootenai Tribes, was vice president of communications and intergovernmental affairs for Salish and Kootenai Technologies, the largest information technology company in Montana before being appointed by Governor Brian Schweitzer to the Council. In 1998 she was appointed by President Clinton to oversee 17 tribal business information

centers across the nation, and she also has operated her own communications consulting firm. She holds bachelor's and master's degrees in education, and a law degree, all from the University of Montana.

To replace Whiting as vice chair, the Council elected Oregon member Bill Bradbury. Whiting and Bradbury will serve as the Council's chief officers until the Council elects officers in January 2013.

Bradbury was appointed to the Council in 2010. He has long been involved in Oregon politics and environmental issues affecting the state. He has served as an elected official, both as Oregon's secretary of state and as a member of the Oregon Senate, where he was Senate president. He directed the non-profit organization For the Sake of the Salmon, working with Northwest Native American tribes; federal, state, and local governments; and timber, agriculture, and fishing interests.

Dukes was replaced on the Council by Pendleton attorney Henry Lorenzen. He has served as chair of the Oregon Environmental Quality Commission, as a member and president of the Oregon State Board of Higher Education, and as a member of the Oregon Fish and Wildlife Commission. Lorenzen holds a bachelor's degree in electrical engineering from Oregon State University and is a licensed professional electrical engineer. He also has a master's of business administration from Harvard University, and a law degree from the Lewis and Clark Law School. ■



Bill Bradbury,
Oregon Council Member





Proxy Falls, Mckenzie watershed Oregon. Photo: Tony Grover

Council Decisions

June 2012

Council Approves Regional Technical Forum Charter and Bylaws

The Council approved a new charter and bylaws for the Regional Technical Forum, an advisory committee to the Council that develops standards to verify and evaluate energy efficiency savings. The new charter, which was recommended to the Council by the RTF policy advisory committee, establishes stricter voting requirements in its decisionmaking.

July 2012

Council Approves Fish and Wildlife Projects

The Council recommended 80 projects for funding to the Bonneville Power Administration. The projects, which were in the resident fish, data management, and regional coordination category, were reviewed by the Council's Independent Scientific Review Panel, and most are currently underway. The Council did not recommend budgets for the projects, which will be determined between Bonneville and each project sponsor, but Bonneville set aside a total of \$49 million for the category.

Council Adopts Revised Budget

The Council adopted its Fiscal Year 2013 revised budget, which maintains reduced levels for fiscal years 2013-2015.





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