

CHAIRMAN'S MESSAGE

The issues facing the Northwest power community have changed over the years, but PNUCC's strength as an organization has endured and expanded. And the reason is the people PNUCC brings together—to build relationships, research problems, and resolve issues in a civil and collaborative atmosphere. It's the people of PNUCC that make the organization work.

Our members and staff contribute their technical expertise, legal knowledge, political acumen, and leadership skills to solve problems. Not only can we call on "old hands" who offer a wealth of experience, but our members have made a point of involving bright, young people in our work, giving PNUCC an ongoing supply of fresh intellect. That's a renewable resource we count on for energetic and innovative thinking.

The issues confronting us today are complex, important, and unprecedented. The Columbia River Treaty is up for renewal, accompanied by questions and considerations that didn't face negotiators back in 1964. Twenty years ago, none of us would have predicted the challenges renewable portfolio standards would present or the technological changes that have prompted our new engagement with the natural gas community. And on the horizon are new issues, like the proliferation of distributed energy.

One thing we can predict is that PNUCC as an organization will step up and do what's necessary to pave the way forward. Sometimes we disagree, but we always listen to each other and respect each other, and consumers in the Northwest are the better for it. Electricity is the lifeblood of our economy, and our members never lose sight of that responsibility.

This is my sixth year as PNUCC chairman during my 27 years on the Board. I want to thank our staff and all the PNUCC members with whom I've had the opportunity to work with over the years. They have shown so much patience, respect, and good will. That kind of spirit is a tremendous asset to our organization and will keep it vital in the decades to come.

Sincerely,

Jack Speer

Chairman

DIRECTOR'S MESSAGE

We have all seen the demographics that tell us baby boomers are exiting the workforce in large numbers. The changing of the guard in our industry bears out that trend. We've celebrated dozens of retirements and bid farewell to many colleagues the past few years.

At the same time, we've welcomed the energy and enthusiasm of a new generation of people who joined the power community more recently and are moving up into the leadership ranks. From general managers to power managers to communicators and top-tier analysts, the face of our industry is literally changing. These folks bring the latest professional and technical know-how, as well as new perspectives and insights that are moving us into the future.

Our industry is evolving in other ways as well. Now more than ever, public policy is driving resource decisions and determining how power is generated and delivered. The Endangered Species Act has had a huge and ongoing impact on our hydro system. Legislative bodies are promoting carbon reduction goals through Renewable Portfolio Standards, and RPS ramifications are myriad: coal plant closures, taxpayer incentives for wind and solar, premiums on energy efficiency, and complicated demands on the transmission system.

Educating and communicating with policymakers has emerged as a top priority for electric utilities and industry associations, like ours. We need to get better at that and be mindful that we aren't just talking to each other. Members of the public and the media have to understand us too.

This year wraps up the chairmanship of an industry stalwart, Jack Speer. Jack has provided thoughtful and dedicated leadership to PNUCC, and we thank him for the past two years and for the previous terms he has wielded the gavel. He and many others have made huge contributions to the power of good ideas that come together in the PNUCC forum.

Sincerely,

Dick Adams Executive Director

CHAPTER ONE

Once upon a time, the challenge of keeping the lights on revolved around engineering, weather, and maintenance, but today, it's a different story. The plot has thickened, and utilities are dealing with much more than "a dark and stormy night."

Political pressures, public opinions, resource policies without precedent, and an array of fast-mutating technologies all factor in a new utility narrative, and making sure that tale has a happy ending is where PNUCC comes in. Our organization delves down in the policy weeds and up into the technological treetops to find solutions to problems and collaborative strategies to maintain and enhance the value of our incredible Northwest power system. The year 2013 was an especially meaty chapter in our saga, featuring some new twists and turns, a widening circle of characters, and PNUCC front and center as the region attempted to write a new chapter on a variety of energy topics.

A Tale of Two Countries, One Treaty

Much has transpired since PNUCC set a goal related to the Columbia River Treaty two years ago. As an organization, PNUCC wants to be in a position to support the U.S. Entity's recommendation on the future of the 50-year-old agreement between the United States and Canada. The U.S. Entity has released a draft recommendation for the region's review. With its emphasis on ecosystem functions, the draft has heightened concerns that power generation, a key element of the treaty, has not been adequately addressed.

PNUCC has suggested changes to the recommendation and taken a leadership role in organizing its members and others in the region's power industry to support the efforts of the Columbia River Treaty Power Group. The intent is to inject into the process the perspective of those who generate, deliver, and pay for the power benefits that were to be shared equally between the United States and Canada under the treaty provisions.

PNUCC stepped in to help staff the Power Group, handle logistics and administrative functions, as well as contribute its members' considerable knowledge and experience to communicate about the issues. We continue to keep our members informed and to coordinate with others to represent the power industry and consumers as the treaty recommendation undergoes review.

Foremost among PNUCC's concerns is correcting the imbalance between Canada and the United States in the sharing of downstream power generation benefits. Studies show that without changes in how the shares are determined that Canada will be receiving a much greater portion of the treaty power operations benefits than the United States post 2024. PNUCC will also continue to push for keeping decisions on domestic ecosystem issues here in the United States rather than injecting them into an international treaty.

Chronicles of Industry Cooperation

We progressed this year in the collaborative effort we launched with the Northwest Gas Association in 2011 to assess the Northwest's natural gas transportation and storage infrastructure and how it relates to the growing use of natural gas for generating electricity. The Power and Natural Gas Task Force hosted bimonthly meetings where representatives from both industries were able to exchange ideas and learn from each other.

In June, our task force produced the I-5 Corridor Analysis that looked at whether the existing natural gas delivery infrastructure in that corridor would be adequate in the future to meet both the natural gas needs of customers of local distribution companies and the growing and changing requirements of electric power generators. We focused on the I-5 corridor because of its high population density.

Phase 1 of the study examined daily demand for natural gas from gas projects in the corridor during a period of high demand and illuminated a number of questions, such as what constitutes "adequate" natural gas infrastructure, which need additional analysis. PNUCC is considering giving the greenlight to Phase 2 of the study, which will look further at alternative fuels, scheduling issues, seasonal and hourly constraints, and the need for new pipeline or storage facilities.

The Northwest has become a leader in the Federal Energy Regulatory Commission's push to promote closer electric-natural gas industry coordination. In March, PNUCC and NWGA filed their first quarterly report to FERC highlighting our progress and plans for more joint studies. Our work is also helping inform the Western Interstate Energy Board's natural gas and electric sector needs assessment for the entire Western region.

The Loads and Resources Story

PNUCC's Northwest Regional Forecast is the go-to document for the full story on the region's loads and resources. The 2013 Forecast showed the projection for regional electricity loads has gone down, compared to 2012, and is likely to remain lackluster over the next decade. The Forecast also offered a perspective on the resource side of the equation, where overall resources are adequate, but concerns are building about system capacity and the gap between winter peak loads and winter peak resources.

To better understand the resource picture, PNUCC's System Planning Committee embarked on several efforts this year. The committee explored how utilities are addressing state renewable portfolio standards, inviting speakers in for briefings on the regional view and the challenges state by state. With RPS targets close to being met across the Northwest, the System Planning Committee is educating itself on the strategies utilities are using to comply with renewable resource mandates.

Zen and the Art of Megawatt Maintenance

This year, PNUCC continued its exploration of resource characteristics and the need to maintain flexible capacity on the region's power system. Not all resources are created equal when it comes to reliability and flexibility.

PNUCC participates in a work group convened by the Northwest Power and Conservation Council to assess how the power system can maintain its flexibility as more variable, intermittent, and non-dispatchable resources are added. We will stay involved in this topic, especially as the Council considers its approach to system flexibility in the Seventh Power Plan.

Plain Speaking

Communicating with policymakers and the public about what utilities are doing and how the Northwest power system works remains a top PNUCC priority. Our Communications Committee brings utility communicators together to get the word out about our success stories, such as utilities' record-breaking conservation achievements, and to develop effective and consistent messages.

One key idea we focused on getting across in 2013 was that not all resources are equal. Our *Plan Today. Power Tomorrow* website has taken on the challenge of raising regional awareness about the different capabilities of generating resources. *Plan Today. Power Tomorrow* also produced articles on what's at stake in the Columbia River Treaty negotiations and the role and importance of our hydropower resources.

Taking a Do-It-Yourself Approach to Carbon

PNUCC made considerable progress in 2013 on an analysis of carbon strategies and costs. With states looking increasingly toward wind and solar as the path to a lower carbon future, our System Planning Committee decided to do the math. Specifically, we're asking how much reduction in carbon would result from developing various quantities of wind and solar generation, and how much carbon reduction would cost. The analysis sheds considerable light on assumptions about a low-carbon future that are driving resource policy in many states.

Clearly the Northwest has an advantage over the rest of the country when it comes to carbon-free electricity. Our generating resources are about 70 percent carbon-free, compared with the U.S. average of 31 percent. Even so, reducing carbon emissions is an operating principle for Northwest utilities these days.

PNUCC Annual Report 2013

PNUCC's report on the carbon strategy analysis will be coming in 2014. And the System Planning Committee will decide if another phase of study is warranted to consider the most cost-effective ways to reduce carbon and the potential for alternative strategies to do so.

Deciphering the Conservation Code

Utilities in the Northwest have achieved impressive conservation savings, beating the goals set in the Council's power plan for seven years and counting. In 2013, we hosted meetings to hear the latest about programs from the Northwest Energy Efficiency Alliance, BPA, and the Council, and we participate on the Council's Conservation Resources Advisory Committee.

Issues we are scrutinizing include I-937 compliance requirements, the revenue impacts of efficiency programs, and the need for flexibility in BPA conservation programs, as well as new opportunities to use efficiency programs to contribute to peak load reduction. All these discussions are preparing us to help the Council shape the Seventh Power Plan into something utilities find realistic and valuable.

Brave New World (California)

For decades, the seasonal diversity between the Northwest and California has worked to the advantage of utilities on both ends of the Intertie. Power from the Northwest helps cool homes in California during the summer, and electricity from California can be called on to meet Northwest heating loads in the winter. But policies and changes in the resource mix are having an impact on that traditional relationship.

PNUCC has an eye on this shift, and in September, we invited a group of California power industry leaders to explore the ramifications with us in a well-attended, lively roundtable discussion. There is no doubt that California's aggressive renewable resource requirements, carbon cap-and-trade program, huge increase in solar PV on rooftops, and once-through-cooling ban will reverberate in the Northwest. PNUCC has started a conversation that is sure to enlighten the reliability and economic challenges these changes represent.

The Sun Also Rises and Needs Transmission

PNUCC keeps its members on top of emerging issues, and this year transmission was a topic of particular interest. Representatives from ColumbiaGrid met with us to discuss their recent studies and plans for future transmission expansion. We tracked down the latest on changes at the Western Electricity Coordinating Council and what WECC is thinking about transmission development.

PNUCC members receive hot-off-the-press updates on new utility Integrated Resource Plans, pending state energy legislation, and new federal regulations, as well as introductions to the latest technology. This year, for example, we had presentations on battery storage, net-zero energy buildings, synchrophasor technologies, and tidal generation.

PNUCC members also receive monthly reports on Northwest Power and Conservation Council meetings. These updates are an easy read, providing us with useful detail on the issues being examined and addressed by our Northwest governors' representatives.

Writing the Next Chapter

The Columbia River Treaty, 21st century resources, carbon policy, and conservation—all of these topics and more will be part of our 2014 work plan. We will ramp up our engagement on the Council's Seventh Power Plan, emphasizing issues like system capacity and flexibility, and offering our perspectives on conservation targets and the impacts of state and federal policies on the Northwest power system. Already, we are participating on several Council advisory committees, and we will be delving into the assumptions and analyses that underpin the plan.

Great Expectations

In 2013 we showcased PNUCC's unique combination of strengths: political acumen, the ability to draw out and organize a potent mix of technical expertise to analyze tricky questions, and a willingness to collaborate with other organizations. This year PNUCC picked up more responsibilities and a boost of new energy. Our members see the value of digging deep into the high-stakes issues affecting our industry. We'll take this enthusiasm and see how far the power of good ideas will take us as we continue the PNUCC story in 2014.

— THE END —

CHAPTER TWO

About PNUCC

PNUCC has played a pivotal role in the region's electric utility industry for more than 60 years. As a voluntary, non-profit organization, PNUCC is a forum for bringing the power of good ideas to bear on a range of issues that affect electricity providers and large industrial users in the Northwest. Through PNUCC members have the opportunity to listen and learn from each other and help shape evolving regional policies.

Our Mission

Bringing the power of good ideas together to assist PNUCC members in fulfilling their company missions in this ever changing electric industry.

PNUCC's mission is accomplished by providing the:

- Searchlight for changes that will have a significant impact on how our industry does business in the future
- Catalyst for examining issues that impact a significant portion of its membership
- Forum for dialogue on policy issues of regional importance
- Hub for technical analysis and data on vital Northwest power industry issues
- Nexus for educating the region on the realities of the current and future challenges of the electric power industry

Our Staff

Dick Adams, Executive Director	dick@pnucc.org	503.294.1268
Shauna McReynolds, Deputy Director	shauna@pnucc.org	503.294.1264
Tomás Morrissey, Policy Analyst	tomas@pnucc.org	503.294.1259

CHAPTER THREE

2013 Board of Directors

Jack Speer, Alcoa Inc. Chairman
John Prescott, PNGC Power 1st Vice-Chairman
David Mills, Puget Sound Energy 2nd Vice-Chairman
Lisa Grow, Idaho Power Treasurer
Dick Adams, PNUCC Secretary

Jim Baggs, Seattle City Light Chad Bartram, Benton PUD Scott Bolton, PacifiCorp Ed Brost, Franklin PUD Stefan Brown, Portland General Electric John Bushnell, NorthWestern Energy Ted Coates, Tacoma Power Steve Eldrige, Umatilla Electric Cooperative Roger Gray, Eugene Water & Electric Board John Hines, NorthWestern Energy Joe Hoerner, Puget Sound Energy Bob Huber, Alcoa Inc. Steve Klein, Snohomish County PUD Larry La Bolle, Avista Corp. Phil Obenchain, PacifiCorp Maria Pope, Portland General Electric Ken Sugden, Flathead Electric Cooperative Jason Thackston, Avista Utilities Tony Webb, Grant PUD

PNUCC Committee Leaders

COMMUNICATIONS COMMITTEE CHAIR **Jeff Beaman**, Central Electric Cooperative

SYSTEM PLANNING COMMITTEE CHAIR Phillip Popoff, Puget Sound Energy

2013 PNUCC Budget

STAFF EXPENSES	450,000
OVERHEAD EXPENSES	161,000
CONTRACTORS—OUTSIDE SERVICES	
Consultants—General	2,000
System Planning	15,000
Communication Initiative	55,000
BPA—Customer Collaborative	15,000
Council Meeting Report	20,000
	107,000
TOTAL BUDGET	\$718,000

2013 Members

Alcoa Inc. Ashland Municipal Electric Utility Avista Utilities Benton PUD Blachly-Lane Electric Cooperative Central Electric Cooperative Chelan County PUD City of Cheney Light Department City of Sumas Clark Public Utilities Clatskanie PUD Clearwater Power Co. Consumers Power Inc. Coos-Curry Electric Cooperative Cowlitz County PUD Douglas Electric Cooperative **Emerald People's Utility District** Eugene Water & Electric Board Fall River Rural Electric Cooperative Flathead Electric Cooperative Forest Grove Light & Power Franklin PUD Grant PUD **Idaho Falls Power**

Idaho Power Kittitas County PUD Lane Electric Cooperative Lewis County PUD Lincoln Electric Cooperative McMinnville Water & Light Northern Lights Inc. NorthWestern Energy Okanogan Co. Electric Cooperative **PacifiCorp Pend Oreille County PUD PNGC Power** Portland General Electric **Puget Sound Energy** Raft River Rural Electric Cooperative Seattle City Light **Snohomish County PUD** Tacoma Power Tillamook PUD **Umatilla Electric Cooperative** Vera Water & Power Wells Rural Electric Company West Oregon Electric Cooperative Whatcom County PUD

