Columbia Generating Station Talking Points

Seattle City Council
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By Sara Patton, Northwest Energy Coalition, executive director

NW Energy Coalition Background

The NW Energy Coalition was organized in 1981 to help implement the Pacific Northwest Power Planning and Conservation Act of 1980, the federal legislation that many in the Northwest power community hoped would save the Washington Public Power Supply System's five nuclear power plants then under construction. Washington Public Power Supply System is now known as Energy Northwest, and the Columbia Generating Station is the only one of the five plants that was completed. Suffice it to say that the Coalition was interested in implementing other parts of the statue:

- The priority for energy efficiency and renewable energy for the Bonneville Power Administration,
- The emphasis on protection for consumers and low income households and
- The promise of effective restoration of fish and wildlife harmed by the power system.

The NW Energy Coalition is proud of the region's remarkable success in developing clean and affordable energy. The Northwest Power and Conservation Council reported this January that energy efficiency is now the second largest energy resource in the region at 5300 average megawatts, enough to power the entire state of Oregon. And savings from 2012 came in at about 1.8¢ per kilowatt hour – very inexpensive.

The City of Seattle and Seattle City Light have been consistent and innovative leaders in this success, from energy codes for new construction to utility incentives for energy efficiency to low

income weatherization. And Seattle City Light is one of the more than 100 member groups of the Coalition. Lynn Best, environmental director for Seattle City Light, is the elected chair of the Washington Caucus of the Coalition.

Patton Background

The landmark "Energy 1990" study gave the Mayor and City Council the information and analysis they needed to decide not to participate in the 4th and 5th nuclear plants that the Washington Public Power Supply System had embarked upon. That was in 1977. Instead they instructed Seattle City Light to invest in energy efficiency and new renewable generation to meet expected new demand through 1990.

I was hired as a newly minted attorney in January 1978 to help Seattle City Light with the legal and policy challenges of developing energy efficiency as a full-fledged energy resource. And I stuck with those challenges until I went to the Coalition in 1993.

Which is to say that the Coalition and I have been working on alternatives to nuclear power for many years in productive partnership with Seattle.

Columbia Generating Station

The Coalition is not here to advocate for any particular position on the Columbia Generating Station. Rather we were asked to provide context for how the nuclear plant fits into the power system and what other resources could replace it if necessary. The Coalition's 2012 Strategic Plan calls for us to "oppose development of new nuclear power facilities and ensure that the problems associated with nuclear energy are presented when

nuclear power is promoted as a useful or necessary response to climate change."

It is important to note a few key facts on nuclear power's minor role in the region. For the state of Washington's 2012 fuel mix, nuclear stood at 4.7%. For Seattle City Light in 2012, it was 4.4% (Department of Commerce-WA). On a regional energy basis in 2013 it was 3% and on a capacity basis it was 2% (NW Power & Conservation Council).

While nuclear plants are considered base-load resources because they do not ramp up and down very quickly, the region's utilities have regular and significant experience dealing with planned outages from the Columbia Generating Station.

- It is refueled every two years, and during that refueling, it is off-line for 2 months.
- Sometimes Energy Northwest schedules maintenance work during refueling and the plant is off-line for up to 4 months.
- A few years ago the spring freshet was so robust that the Bonneville Power Administration asked Energy Northwest to bring the plant down to 855 capacity to accommodate all the hydro and wind on the regional power system.

During these refueling periods, all utilities that rely on that power use other resources. They plan for these outages either by purchasing other resources or by using their own resources in a different manner.

Are there adequate cost-effective efficiency and renewables to meet the City's needs if the Columbia Generating Station is retired? We have not done this analysis for City Light. City Light could and should include such a scenario in its next integrated resource plan.

That said, I will review two solid analyses of the region's clean and affordable energy potential. First, it is important to look at the 6th Power and Conservation Plan put together by the Northwest Power and Conservation Council. It is a twenty year plan adopted in 2010 that establishes a regional load forecast and portfolio of resources to meet new demand over that time period.

The 6th Plan shows that the region can meet 85% of new demand with energy efficiency; the remaining 15% can be met with new renewable energy resources. The Plan identifies a high, medium and low adoption rate for energy efficiency – all of which are cost-effective. The region is now achieving the medium case. Some conservation experts think the region is under valuing efficiency and we should be expanding delivery and program design to achieve the high case targets.

Meanwhile, all utility conservation potential assessments analyze three levels of savings: technical potential, economic potential and "achievable" potential. Seattle City Light's integrated resource plan is no exception. Utility programs shoot for the achievable level. Yet, the larger economic potential is cost-effective and available. We all must think outside the box to acquire more savings. Seattle City Light's conservation potential assessment shows an achievable potential at 9.7% of baseline in 2023. It shows a much larger economic potential at 14.7%.

The second analysis of the region's clean and affordable energy potential is *Bright Future*. The NW Energy Coalition conducted this study in preparation for the 6th Plan. Bright Future looks at a longer time horizon and a more ambitious goal than the 6th Plan, however. The time horizon goes to 2050 and the goal goes beyond merely meeting increased electric load as then forecasted. We increased the load forecast to account for increased electrification of transportation. On the existing resources side, we reduced power from existing generation in two

areas. We reduced coal fired electrical generation to zero by 2050 and we reduced federal hydro system output by 1100 average megawatts by 2020 to give back water to endangered salmon and steelhead.

I have copies of a four-page synopsis and of the entire study for you. I won't go into great detail but the basics are that we found a total need of 25,600 average megawatts of new power

- To meet load growth including electrification of transportation by 2050
- To replace 1100 average megawatts of power for salmon and
- To replace 6,600 average megawatts of power from coal fired generation.

Then we looked at clean and affordable power to meet the 25,600 average megawatt challenge.

We found 81,118 average megawatts of clean power:

- 14,280 average megawatts from EE under 4¢/kWh
- 6,200 average megawatts from combined heat and power under 6¢/kWh
- 60,638 average megawatts from clean renewables under 10¢/kWh.

This analysis was completed in July 2009, so it is somewhat out of date, but its basics are still valid. There are plenty of clean, affordable energy resources available to meet our power needs and retire existing generation as appropriate.

City Light is looking at all these resources as part of its integrated resource plan process. Modeling resource options to replace the Columbia Generating Station from Bonneville Power Administration's portfolio is an important step.