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April 29, 2009

MEMORANDUM

TO: Council Members

FROM: Terry Morlan

SUBJECT: Discussion of a Vision for the Northwest Power System

Following discussion of the idea of a vision for the Power Plan at the April meeting, public affairs staff has developed a statement of a vision for the Northwest Power System. This vision could be used internally to guide our thinking and actions, or it could also be included in the Power Plan. We will discuss a draft vision statement (attached) and whether it should be included in the Power Plan explicitly or not.

The vision describes a long-term power system that is efficient and sustainable in terms of its environmental footprint. But it also addresses the manner in which the region achieves the transition to the long-term vision. It would do so while sustaining an adequate, efficient, economic, and reliable power system. The future described is one where the power system evolves toward a smart grid system that facilitates improved reliability and efficiency and facilitates the participation of small scale and consumer-based resources in providing electricity services.

To help clarify this vision, consider an alternative vision that maintains the traditional utility dominated power system. Progress toward a reduced carbon footprint is reliant on larger scale generating resources such as nuclear or coal with carbon separation and sequestration. There would be more reliance on natural gas-fired generation in the intermediate period. Dick Wallace has suggested including fish and wildlife in the vision, and I think of that as being covered in environmental footprint and sustainability. In addition, he has suggested including an objective of a well informed and involved public, which I think is a good idea and fits with the concept of increased consumer participation in the power system.

Attachment

The Sixth Power Plan: Toward a Clean Energy Future

The Northwest's energy environment has never been more complex, for we are living in a time of profound change. From concerns about the effects of greenhouse gases on our climate to the operation of the region's hydroelectric system to meet peak demand, the challenges are many, and they are interrelated.

Improved efficiency, the most cost-effective resource available, is carbon-free and serves as the foundation for a cleaner power system.

Regulatory mechanisms to control carbon emissions at the state level, and perhaps nationally, will continue to drive the development of renewable energy. Wind generation has experienced tremendous growth and is expected to be a significant future resource. At the same time, it presents unique problems for the region's hydro-dominated system, which provides back-up power when the wind isn't blowing.

Our pattern of electricity use is also changing. For many reasons, including how we live today, the demand for energy in the summer is growing. Hotter summers, along with more homes with air conditioning, means it will be important for the system to meet peak load, as well as having enough energy to meet our annual demand.

How will we address these challenges and what will the energy system of the future look like? The Council's Sixth Power Plan envisions a cleaner and more efficient system for the region.

- Nearly 6,000 average megawatts of achievable energy efficiency will stabilize the Northwest's demand and CO₂ production over the next 20 years.
- Conventional coal plants will be decommissioned gradually, and no new coal plants will be built without effective carbon-reducing technologies.
- Smart grid technologies will make the energy system run much more efficiently, improving its reliability and safety. Although it's an emerging sector, its impact would transform the system in the way the Internet has transformed communications.
- Plug-in electric vehicles may become part of the energy system, recharging them and relying on them to store energy at night and other off-peak times.
- The region will continue to rely on the hydroelectric system to supply the majority of the region's power, providing the system flexibility to integrate wind and other variable resources.

For nearly 30 years, the Council's mission to ensure the region of an adequate, efficient, economical, and reliable power supply has not changed. Today, the road to that end means addressing many new questions along the way. The Sixth Power Plan is a map to that future.