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FUNDAMENTALS OF THE ELECTRIC POWER SITUATION IN THE PACIFIC NORTHWEST

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Congress passed the Energy Policy Act of 1992 with an objective of creating a competitive playing field for *wholesale* power supplies. It prevented a high-voltage transmission owner from favoring the transport of its own power supplies over another's. Now, with the natural monopoly -- the transmission wires -- operating as a non-discriminatory, open-access carrier of power, the generation owners had access to markets never before accessible to them. And with the West Coast in a surplus condition in power supplies, wholesale prices plummeted.

The *retail* electricity market, under the jurisdiction of the states, would remain regulated and captive until the states could decide when and how to usher in retail choice (the ability of consumers to select power supply providers). This froze potential investment in new power plant on the West Coast. Utilities with the traditional retail load-serving obligation could not know what loads they would have to serve in the future. Merchant power plant developers could not know what their opportunities would be to compete for retail customers, and the wholesale market was flush with power.

Although the retail rules are still cloudy eight years later, the wholesale picture is now clearly one of very tight supplies in the West. As we entered this winter, the Northwest grid was about 3,000 MW short of historic reliability levels. "Historic levels" means enough generation capacity, and the transmission to carry it to distribution centers, to assure that loss of service to firm loads does not occur more frequently than once in 20 years. In other words, a blackout-causing event should be a rare coincidence of multiple bad situations; for example, a combination of drought (most of the region's generation is hydroelectric), major unscheduled losses of machine capability (generation or transmission outages), and an arctic weather blast.

Finding most of the 3,000 MW needed to eliminate this shortfall recently became Bonneville's responsibility. This is because the utility customers who left us five years ago for the more attractive short-term wholesale market have stormed back to demand renewal of service beginning in October of this year. In the face

of our renewed popularity, Bonneville began working with generation project developers and other merchants to obtain new supplies. Although more than 3,000 MW of new generation is now fully permitted in the Northwest, less than half is under construction. This means that Northwest supplies will not be adequate for at least another two years.

Most of the Northwest grid reinforcements necessary to accommodate the next 3,000 MW will be in the Bonneville transmission system. We are accelerating these reinforcements in order to integrate power from the new generation as soon as it becomes available. We are also accelerating additional reinforcements that can accommodate another 4,000 to 9,000 MW of generation in the next five years.

Meanwhile, the Columbia basin this winter is experiencing streamflows that are among the lowest in recorded history. This has eliminated 6,000 MW from the Northwest hydropower system's winter capability; and with snowpack standing at half of normal levels, the power prospects for the rest of the year are bleak.

In addition, power we normally import from California at this time of year is unavailable. California has been teetering on the edge of blackouts with 35,000 MW of winter load when it has generating capacity of more than 50,000 MW. Large numbers of power plants are out of service for a host of reasons on any given day. Never before have we seen anything like this. On a planning basis, the Northwest has relied on the availability of up to 3,000 MW of California's winter surplus to meet our needs. Indeed, the reason that the large transmission interties were built between the Northwest grid and the California grid was to take advantage of our complementary peak demands. California experiences its system peak in the summer; the Northwest's is in the winter. Northwest shipments of energy into California last summer kept them out of blackouts. It is astonishing that next to nothing should be available from the California generators this winter for export to the Northwest.

The equivalence of all three of the rare events whose coincidence can cause blackout in the Northwest are with us: (1) drought; (2) the major loss of machine capacity, in the form of the loss of imports from California; and (3) the deficit we had as winter approached (an amount that is equivalent to the effect of a modest arctic cold snap). So the lights should be *out*.

The reason the lights are on in this room today is that more than 3,000 MW of Northwest industrial load is shut down. Bonneville, the investor owned utilities, and several of the larger municipal utilities have paid some of the most electricity-intensive industries in the region to shut down for the rest of the year.

So the lights are *on* ... and they probably will stay on unless we get a stiff arctic weather blast or some other major calamity. Pray that we don't. We would have to resort to rolling blackouts to get through such an event.

The drought and the double California blow of disappearing generation and stratospheric prices have caused financial bleeding in the Northwest. Prices are 10 times higher than anything we have experienced in history. Many utilities exposed to short-term power purchasing in winter have already raised rates substantially. Several industries that pressured their serving utilities and the state public utility commissions several years ago to let them buy power on the wholesale spot market have gone out of business. Bonneville is faced with raising rates an average of 60 percent for the 2002-2006 period to cover the cost of the new power supplies it is arranging, and to recover from the huge drain it is experiencing in its financial reserves this year.

There are three things that can help the Northwest significantly this year: Getting the California generators to run; taking more demand-side actions; and reducing spring or summer flow augmentation of the Columbia River. Since California appears unable to help itself, we have no expectation that they will soon be able to help us. On the demand side, Bonneville has spent more than \$400 million curtailing industrial load; and although we have just made an offer to reduce irrigation pumping load, we are almost out of demand-side options that can make a significant immediate difference. Our last resort is to reshape river flows that are now shaped to support fish migration in the spring and summer. Despite complaints you may have heard about fish being sacrificed to our energy appetites, our actions to date -- of using water now rather than storing it for the summer -- have only reduced the spring flow rate of the Columbia River by a fraction of one percent. But we may have to take greater advantage of the flexibility of the reservoirs to meet Northwest power needs to get through this unusual year. It largely depends on the weather from here to October.

For the longer term, to assure the Northwest of reliable and economical power service in a new and very different world of power commerce, we must do the following:

1. Bonneville, the several states, and private sector developers must expedite the siting, construction and integration of new power plants. Bonneville's transmission planners have received requests for integration studies of more than 13,000 MW of new generating capacity that would be sited in the Pacific Northwest.
2. The owners of the region's high voltage transmission must make at least 20 major reinforcements to the grid during the next five years. This will add more than 700 circuit miles of line. Most of these projects will be in the Bonneville system.
3. Bonneville and its public and private utility partners must move conservation and renewable resource development to the forefront of our efforts to balance

loads and resources. In the next five years, a cost-effective 1,500 MW could be reachable.

4. Bonneville and its federal partners -- the Army Corps of Engineers and the Bureau of Reclamation -- must expedite the optimal expansion of the federal hydropower facilities and achieve a coordinated maximal operation of these facilities. In the next five years, a cost-effective 500 MW could be developed.

5. Bonneville and the investor owned utilities of the Northwest must advance their blueprint for a single seamless regional transmission organization -- "RTO West" -- that can assure electrical system stability in a world of merchant suppliers and retail choosers.

6. Bonneville, the distributing utilities and the states must work to accommodate and encourage the greater role and deployment of the new small-scale, distributed-resource technologies that will make it possible for consumers both to sell to the grid and to achieve a higher quality of power than the grid alone can provide.

Seventeen years ago, Bonneville's basic wholesale rate to its utility customers for delivered firm power was \$23 per megawatt-hour. Today it is \$24. The rest of the Northwest power industry, until this year, has been similarly stable. Real prices therefore have fallen sharply over this period.

The outlook for the next 17 years also indicates potential for a decline in real prices, although a more modest one, absent new environmental regulatory intervention. It would result from nuclear debt retirement, fuel cost declines, technology improvements, operation and maintenance efficiencies, and growth in electricity consumption lagging behind the real growth in Gross Domestic Product. The latter factor arises from increasing efficiency in the use of electricity and lower growth in electricity-intensive industries, which together could completely offset the explosion in power requirements for computer-based commerce and communication.

The fundamentals for electric power in the Northwest are excellent. We have unparalleled options in our low-cost hydro base, our access to expanding western Canadian gas production, the development potential of low-sulphur coal on our eastern perimeter in Montana and Wyoming, and our ability to store and utilize the intermittent output of wind and solar generation through the giant storage batteries that are the Columbia and Snake River reservoirs.

All that is the good news. The bad you already know: The restructuring of the power industry is producing ugly spikes in this picture. Although we believe that the spikes are transitory, we know that the long-term picture is no consolation to a company that has to maintain a positive cash flow and a competitive posture

from quarter to quarter. We will leave no stone unturned to find the least-cost path through the difficult circumstances of the next two to three years.