Thursday October 28, 2004

Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 10/26): 47,387 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

• Weekly Range at Mid-C:	$39.7 – 52.4 per MWh, Ave. = $45.3
• Approximate change from previous week	$+5.3 per MWh
• "Normal" price range, before 5/00	$20-$40 per MWh
• Petroleum, West Texas Intermediate:	$55.15per barrel (year ago: $29.22)
• Seattle gasoline price (10/18)	$2.09 per gallon (year ago $1.65),
• Natural gas, Sumas Hub:	$6.15 per million British Thermal Units (year ago $4.03)
• Approximate change from last week.	Oil: +1.28 $ per barrel; Nat. gas: +1.67 $ per MMBtu

3. California Electricity Situation

- <u>CA ISO Alert Status</u>
  - July 22, 2004: Third consecutive day of record electricity use.
  - A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
  - 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
  - Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- Conservation Tariff: Ending Customers vs. Shareholders' Impasse? (Energy Pulse, Oct. 20)
- The tightening oil market: Crisis in putting together energy data (WSJ, Oct. 26)
- Manure energy quagmire in California (Sac Bee, Oct 27)
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5. River and Snow Pack Information (Updated: Oct. 20, 2004)

- Observed Sept. stream flow at The Dalles: 122.8% of average,
- Observed Aug precipitation above The Dalles: 148% of average,
- Observed Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
- Federal hydropower generation in Aug.: 7,033 aMW, 1995-2002 average: 8,166 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: Oct. 26, 2004)

- Average flow of power during the last 30 days
  - California (exported to) 2,148 MW
  - Canada (exported to) 1,395 MW
  - Net power export: 3,543 MW

Conservation Tariff: Ending Customers vs. Shareholders' Impasse?

By Gary Clouser, Energy Pulse, Oct 20.

Traditional utility ratemaking pits the interests of utility shareholders against customers in energy conservation and efficiency efforts. That is a situation that Northwest Natural proposes to change through what it calls a "conservation tariff."

Speaking recently at a Bonneville Power Administration-sponsored conference entitled, "Energizing the Northwest, Northwest Natural CEO Mark Dodson, discussed the problem and his utility's response. "When we rely on volumetric rates to cover our fixed costs, we have a vested interest in customers using more energy. The more kilowatt hours or therms we sell, the greater our cost recovery. Conversely, if customers conserve and reduce their energy use, we are less able to recover our fixed costs. So the interests of customers are pitted against the interest of our companies, and our shareholder or owners. We are forced to choose between satisfying one group or the other," Dodson said. He added: "I firmly believe that no organization, public or private, will succeed if it regularly finds itself at cross-purposes with its customers." For all practical purposes, under the traditional structure, a utility can only meet its financial obligations if it meets or exceeds projected sales volumes.

To break that impasse, Northwest Natural made a compact with its customers and commission, which it calls a conservation tariff. The tariff basically said: If you don't penalize us for our efforts, we will do everything we can to encourage conservation.

The concept was simple, Dodson said. We have over the years established a baseline usage for our customers. Each year actual usage is affected by weather as well as price elasticity – that is, if the prices go up, customers tend to use less. We normalize our usage data for weather and price; any change in consumption beyond that is identified as conservation, Dodson said.

Getting regulatory approval and customer support was a long and painstaking process. "We were convinced that we needed the support of the state's consumer advocates before we took a proposal to the Oregon Commission. So we worked with the Citizens Utility Board and the NW Energy Coalition in designing the mechanism," Dodson said. The company filed the conservation tariff in June 2001, but it was not approved until October 2002. That approval has, for example, allowed the utility to successfully promote the sale of high-efficiency gas furnaces that can reduce heating load by 20-25%

Northwest Natural's conservation tariff has captured the attention of the industry. The basic concept is the same one recommended by the Edison Electric Institute and the Natural Resources Defense Council to National Association of Regulatory Utility Commissioners (NARUC) in November 2003. "To eliminate a powerful disincentive for energy efficiency and distributed-resource investment, we both support the use of modest, regular true-ups in rates to ensure that any fixed costs recovered in kilowatt-hour charges are not held hostage to any sales volumes," they said. In July 2004 Dodson, representing the American Gas Assn. and Ralph Cavanagh of the Natural Resources Defense Council presented a similar joint position to NARUC.

Dodson says the conservation tariff enables him to tout gas conversion for some purposes without appearing to be self-serving. He noted, for example, that the NW Planning Council has identified 100,000 electric water heaters in homes that NW Natural serves with gas. If those water heaters were converted to gas, Northwest Natural would not make any more money under the conservation tariff, but the council believes the state of Oregon would reduce its peak load demand for power by

over 400 MW. That is the equivalent of one of the new gas-fired generation plants in the queue for siting, and it saves gas, Dodson said.

When gas is burned to create electricity, between 45-75% of the energy value is lost. When it is used directly in applications, such as from the burner tip to heat water, only 5-10% of the energy value is lost, Dodson said. “At a time when we are all concerned about future energy supplies, does it make sense to waste half the value of the natural gas we’re using? If possible, shouldn’t we obviate the need to build power plants by using our resources more wisely?”

He continued: “For the sake of our society, our energy supplies and the long-term health of our businesses, we should be advocating the right energy source for the right use. Electricity, in many cases, should be used where it is the only or obvious best choice --- for lighting, power, irrigation, motors, etc., and I would be the first to acknowledge that. But where natural gas can be substituted for electricity, I believe saving the resource that would have been wasted to generate the electricity; natural gas should be the preferred choice.”

Dodson, who also co-chairs Oregon’s global warming commission, said “the power of public opinion, and the scope and depth of the environmental movement, cannot be ignored.” While people argue over the science, I have been stunned at the level of public concern, he said. “People are demanding that something be done and we must respond. Not only do we have a compelling need to respond to people’s concerns; it is right to be environmentally sensitive in the way we run our businesses,” Dodson said.

“At Northwest Natural, we have learned that new ideas can succeed in the regulatory arena when the parties involve focus on the outcomes that benefit both customers and shareholders. To put these groups at odds with one another is unfair, unwise and bad energy policy,” Dodson concluded.

Open Letter to Governor Schwarzenegger: Practical Environmentalism for California. Why Not Combine Efficiency and Renewables into an Energy Portfolio?

By Steve Heins, Energy Pulse, Oct. 22.

Dear Governor Schwarzenegger:

In a recent article in the New York Times Magazine section, David Brooks - a columnist on the Op-Ed page of The New York Times, a senior editor at The Weekly Standard, a contributing editor at Newsweek and the Atlantic Monthly, and a commentator on "The Newshour with Jim Lehrer" - described the current state of energy policy and politics in the U.S. as follows: "Republicans currently stand for production, the cultivation of existing technologies, and a somewhat callous disregard for the environment. Democrats stand for conservation, the cultivation of environmentally sensitive but unrealistic technologies and a sometimes callous disregard for economic growth." Frankly, we need to separate the discussion of energy policy from politics in such a way that it becomes either bipartisan or even non-partisan.

Without subscribing entirely to either stereotype offered by Mr. Brooks, it is worth observing the contradictions inherent in such energy policy discussions. In fact, there is a solution sandwiched in between the opposites of energy production and energy conservation, between existing technologies and unrealistic technologies, between callous disregard for the environment and callous disregard for economic development. The solution is combining energy efficiency and renewable energy into the same energy portfolio. In the case of California, this would allow you as

governor to develop a wide range of energy source options without precluding the important issues related to California's environment and economic development.

As you have observed in your "Agenda to Bring California Back," California already has electric rates that are 61% higher than other western states for residential customers and over 100% higher for businesses. Furthermore, with more than 10,000 Megawatts (or, the equivalent of 20 500-Megawatt power plants) of capacity still on the drawing boards, California can certainly expect significant upward pressure on electric rates for all customers when these plants come on-line.

While your call for a Renewable Portfolio Standard of 20% by 2010 has an environmentally pleasant ring, it is worth noting that the current state of renewable technology cannot economically support the increase in the renewable energy sources necessary. However, a combined approach to California's Portfolio Standard could easily provide 20% of the state total energy supply. After all, California's use of a portfolio standard by definition implies a broad diversification of assets to ensure a balancing of risk and a maximization of reward.

First, we would like to define energy efficiency as "the quickest, cleanest and cheapest source of new energy," which means it should be accorded at least the same respect and consideration that Renewables receive today. In fact, the American Council for an Energy Efficient Economy (ACEEE) has done a study recently, entitled "The Technical, Economic and Achievable Potential for Energy Efficiency in the United States: A Meta-Analysis of Recent Studies," that shows as much as a 24% reduction of all electricity usage could be achieved in the U.S., which means that as much as one hundred thousand Megawatts of savings is possible.

The fact is California's utilities and state regulators need to be able to treat energy efficiency as a supply side option, with an allowable return on investment. California's "Energy Action Plan" says as much, when it says California should "provide utilities with demand response and energy efficiency investment rewards comparable to the return on investment in new power and transmission projects." If given a return on energy efficiency competitive to the one they are given now for energy supply and production, utilities will be able to justify to their shareowners their investments to reduce demand and make energy efficiency a growing part of their business platform.

It is worth noting that neighboring Nevada already has introduced legislation, Assembly bill No. 429, relating to Nevada’s Trust Fund for Renewable Energy and Energy Conservation. During the worst of your energy problems in 2001, California has already proven that it could reduce demand by 5% within the first year of the crisis, with as much as a 10% reduction in overall electrical consumption possible for California over the next decade. New evidence is emerging that California could cost-effectively reduce its electricity needs by at least 5,900 MW - the equivalent of 12 large power plants - over the next decade.

It has been estimated that the net benefits to California would be $12 billion and the environmental benefit is significant. With California's leadership, one can imagine the economic and environmental benefits of Energy Efficiency nationally if we coordinate efforts throughout the U.S. By motivating utilities, businesses and individuals to employ the positive economics of both Energy Efficiency and Renewables, California will have a 21st Century solution to the vexing problems involving energy, efficiency, economics and environmental issues. By doing so, California can achieve a practical environmentalism, which preserves California's quality of life while revitalizing its economic development.

Respectfully,
Steve Heins
Director of Corporate Communication
Orion Energy Systems

The Tightening Oil Market: IEA Warns of 'Looming Crisis' In Putting Together Energy Data

WSJ, Oct. 26

The International Energy Agency warned of "a looming crisis" in compiling its energy data, which often sway world prices for oil and natural gas and affect the planning of the biggest energy producers.

In its long-term World Energy Outlook, the agency, which represents the interests of the Organization for Economic Cooperation and Development's 26 member countries, said it took the "unusual step of raising this issue because we believe there is an urgent need to preserve the reliability of our statistical base."

The agency's monthly supply, demand and inventories data are closely watched, but there have been murmurs of dismay from some in the industry over the number and degree of revisions it makes, particularly when it comes to gauging global oil demand.

In February, the Organization of Petroleum Exporting Countries cited the agency's estimate of weakening seasonal demand as one of the reasons to cut back output. The degree of surging demand from China and others wasn't apparent, eventually catching the oil markets off guard and contributing to record high crude-oil prices.

In its October monthly oil-market report, the agency said world oil demand in the third quarter was 600,000 barrels a day more than it had forecast a month previously. "A more reliable and transparent system is needed urgently, especially for investor confidence," said Fatih Birol, the agency's chief economist.

The agency pinned some of the blame on governments. National data, it said, often are subject to lapses and frequently prove inconsistent. "These lapses compromise the completeness of our statistics. They could seriously affect any type of analysis, including modeling and forecasting," the agency said.

Other causes for inaccurate data gathering it cited included:

-- Liberalization, as state-owned utilities have been replaced with hundreds of independent companies;

-- Governments' failure to fund their own statistics, resulting in holes in the data;

-- New data on hard-to-measure energy issues such as renewables, conservation policies and emissions.

The IEA said it seeks higher statistical standards and better funding from contributing governments, adding that the legal framework for data gathering must be revisited.

One solution, it said, is the three-year-old Joint Oil Data Initiative between OPEC, the IEA, Eurostat and others. The goal is to create a reliable system that allows future crude production, including oil reserves and the performance of existing fields, to be monitored.

The agency's executive director, Claude Mandil, said progress had been slower than expected but noted that at the Joint Oil Data Initiative's latest meeting about two weeks ago, China agreed to provide up-to-date demand data within the next six months.

"The earth's oil resources are adequate to 2030 and well beyond, but not everybody is convinced because the data are uncertain. This is bad for investors. We are not sure the private money will come to finance oil development," Mr. Mandil said.

"We have to convince all the players -- OPEC, oil companies and the financial bodies -- that it is worthwhile to improve the current situation," he added.

Manure energy quagmire in California

Troubles beset dairy farm projects

Sacramento Bee, Oct. 27

Amid smiles and handshakes, Lodi dairyman Larry Castelanelli's new methane-powered generator chugged to life last week.

California's newest industry - a $7 million plan to make power from manure - finally was rolling.

By the end of the year, 12 of 14 state-funded pilot projects on dairy power are expected to be operating, and three more dairy generators are planned next year for southern Sacramento County.

The stakes are high, as the state tries to reduce dairy odor, meet renewable energy targets and curtail emissions of greenhouse gases linked to global warming.

But so-called biogas plants, already more than two years behind schedule in California, are not sure bets. The Central Valley's potential for manure-based energy could fizzle without more evidence about environmental benefits, cooperation from power companies and new incentives to turn pollution into power.

Since its creation during the 2001 energy crisis, the Dairy Power Production Program, under the auspices of the California Energy Commission, has been hampered by technical problems at dairies, along with low milk prices and state budget cuts.

Much of the problem has been pinned on power companies, where obstacles became so severe they were addressed by a state Senate committee in August.

"(Power companies) just don't want to help," said Mark Moser, president of Berkeley-based RCM Digesters Inc., which designed Castelanelli's methane digester. "The more high-priced energy they sell, the better it is for them."

In one of many tussles, dairy power backers fought a package of tariffs proposed by the state's big three power companies that some environmentalists and farm interests believed would undermine biogas.

And there are more practical problems. Sustainable Conservation, a San Francisco environmental group that supports dairy power, said utilities are taking an average of one year to approve permits connecting biogas facilities to the power grid.

"The common theme ... (is) bureaucratic delays, excessive electrical equipment requirements - often beyond what other states require - costly studies and uncertainty of outcome," said one recent report by the conservation group.

Many complaints are directed at Pacific Gas and Electric Co., which services 70,000 square miles between Bakersfield and Eureka. Company officials say they support dairy power through "self-generation" grants, and they are trying to reduce the confusion that has slowed progress.

"It's been a little difficult at times," said Mike Steele, the PG&E coordinator of the Castelanelli project. "We do our utmost ... to make these projects successful."

Dairy power expert George Simons at the California Energy Commission, the state's main energy policy agency, said startup problems are beginning to dissolve as the first dairy digesters get online.

For power companies, small independent producers can create complications and even safety problems in rural areas, said PG&E official Kim Whitsel.

"A lot of times, folks look at this as plugging in the toaster, but it's very far from that," she said.

PG&E plans to meet in December with dairy interests and reduce their uncertainties.

California is home to 1.7 million dairy cows. Many are penned in corrals between Sacramento and Bakersfield. The state's 1,950 dairies generate an estimated 16 million tons of manure - in addition to liquid waste - each year.

Engineers have tried to turn manure into power for decades, but the idea is now starting to gain widespread attention in California because of demands to reduce pollution and reduce peak power use.

Under current goals, the state aims to gather 20 percent of its energy from renewable resources by 2010.

California's 14 pilot projects cost an average of $1.2 million each. About half the money comes from state grants, and federal money also cuts costs. Participating dairies are expected to generate 3.5 megawatts, enough for about 3,500 homes.

About a dozen methane-powered plants operate nationally, but Simons at the Energy Commission said 40 percent of California dairies could have biogas running within a decade.

As Castelanelli's rig sloshed through the mud past milking sheds last week, he shared uncertainties about the $773,000 project, 41 percent of which was paid for by the state.

At the Lodi dairy, manure is routed into a 600-foot-long by 200-foot-wide lagoon, where bacteria break down the manure. The resulting methane gas is captured and used to fuel a 160-kilowatt generator that operates around the clock.

Castelanelli sends his electricity to PG&E, which allows the dairy to subtract its power production from its power bill under 2002 legislation that runs out at the end of next year. Dairies are expected to save between $60,000 and $360,000 a year in electricity costs.

"If I don't get enough (money) to change the oil and maintain the engine, why am I doing this?" Castelanelli said. "A year from now, I'll tell you if this was a good thing or not."

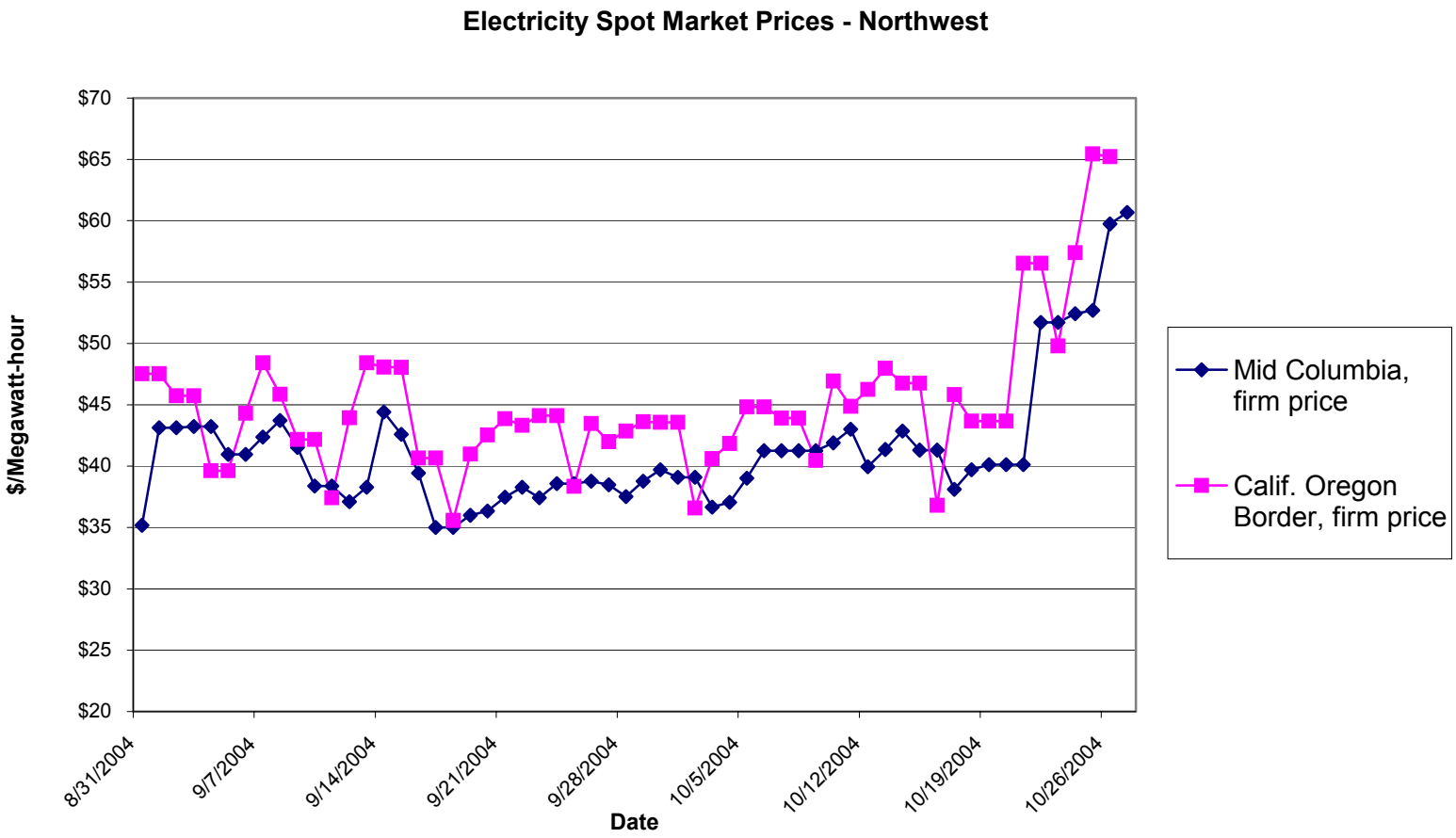
Others also are wondering how the promise will play out. State Treasurer Phil Angelides said Tuesday that he was not convinced about the environmental benefits and announced a freeze on dairy project spending from one state pollution prevention fund.

Angelides was reacting to concerns that the state may have been backing projects that didn't have a proven environmental benefit. The treasurer's action won't stop the dairy power program - that

money comes from another pot - but it does raise political and environmental questions about the technology's future.

The Sierra Club, for instance, opposes subsidies for methane power plants because of concerns about huge dairies that can number several thousand cows. The environmental group says manure-based energy should not be considered "renewable" because it is the byproduct of an "inefficient ... (and) wasteful" industry.

Regardless, dairy power backers are drafting legislation to expand state support. Also under way in southern Sacramento County are three more dairy power plants.

Aware of the slow startups elsewhere, the Sacramento Municipal Utility District promises a smooth ride for dairies and has helped several owners apply for federal grants.

Petroleum futures closed at above $55 per barrel on Tuesday. Natural gas futures prices have climbed rapidly in the last two weeks and are now hovering around $8 per thousand cubic feet (Mcf), up over $3 per Mcf from their September prices. Electricity spot market prices are up steeply over the two weeks moving into the $45 – 60 per Megawatt-hour (MWh) range, more than 50 percent higher than the price range of this summer. These three primary energy sources (petroleum and related refined products, natural gas, and electricity) are all interrelated, and track each other to a certain degree. Prices of natural gas and electricity vary more with the seasons as they are strongly linked with space heating and cooling. The table shows Pacific Northwest electricity spot market prices over the last 2 months.