



Bearing Down

[12] Why Not Do a Market Test of Columbia Generating Station?

Dueling cost figures for the Pacific Northwest's only nuke plant have been flying around the region since early December, when Physicians for Social Responsibility released its report claiming the region would save more than \$1.7 billion by replacing Energy Northwest's 1,170-MW Columbia Generating Station with . . . something else.

As comprehensively covered by Ben Tansey (CU No. 1625 [12]), the report—prepared for PSR by McCullough Research—suggests BPA issue a request for proposals for energy and capacity to see if CGS “can be replaced with long-term options that are less costly, less risky and better fitted to regional needs.”

As would be expected, Energy Northwest fired back, citing a study it commissioned by IHS CERA that concluded CGS is cost-effective. As Tansey reported, the CERA study “found that the present value of continued CGS operations over the next 30 years is \$5.3 billion, compared to a ‘closure and replacement case’ using natural gas of \$6.9 billion, a difference of \$1.6 billion, almost exactly the same amount PSR said the region would save by closing and replacing the plant.”

But wait, there's more. McCullough Research responded with principal Robert McCullough's Jan. 2 review of the CERA study. CERA compared the costs of operating CGS with those of a new natural gas unit built in 2020, and pegged the gas plant's cost at 6.8 cents/kWh, McCullough reported—“roughly twice the cost of Energy Northwest's own Kalama Energy Center (KEC) as presented to the Energy Northwest board on numerous occasions.”

Energy Northwest cancelled KEC in 2013 “due to market conditions,” McCullough noted.

“No one apparently told CERA that Energy Northwest was building its own [combined-cycle combustion

turbine] at Kalama,” McCullough told me, “and we have all the real-life data they have committed to” that shows KEC is much cheaper than IHS CERA's project.

For one thing, CERA used a “preposterous heat rate of over 7,000 Btu/kWh, when it should be about 6,300,” he said—but “the best part is CERA announced that real natural gas prices will stay at \$5.30/MMBtu in perpetuity.” While CERA had recently published a natural gas price forecast that was vastly lower, it's not the forecast used in their ENW study, McCullough added.

One might argue the Kalama Energy Center numbers are too low, McCullough said; but even those costs were too high for that project to be viable, as the market was even lower. “It's very hard to beat the current market, which is the issue that is really the central theme of the PSR report,” he said. “We've had five years of market prices lower than the price of power at CGS; let's see if there's a better deal out there than operating the plant.”

Energy Northwest also argues KEC's numbers are too low—but draws a different conclusion.

McCullough's analysis is based on the air-discharge permit application Energy Northwest filed for Kalama in 2010, said Ted Beatty, generation project development manager for ENW's energy business services. Its \$400-million capital cost was a preliminary estimate “because we hadn't gone through final design” at that point.

“Then it never got completed,” Beatty said, “so using that as an estimate is just a data point, not a finished project.” A more accurate cost figure could be “plus or minus 20 percent,” Beatty said.

The capital cost is a small part of the overall cost of a project, Beatty also told me. “The majority is fuel costs—that's the biggest driver in a net present value of a power plant.”

Which brings us back to the CERA study, which McCullough said assumes future natural gas prices will stay where they've been for the last 12 years.

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“This assumption is wildly inconsistent with respected industry forecasts and actual forward prices” and—as already noted—does not use IHS CERA’s own published natural gas forecast.

That forecast was for Henry Hub gas prices, said Larry Makovich, one of the authors of the CERA study. There is “no reason to expect Henry Hub prices would be what someone is going to pay for the delivered price of gas into Washington state,” he told me. Since the ENW study was an assessment over a long period of time, “I thought it would be more prudent to evaluate the range of natural gas prices rather than just a single forecast.” The study took the typical delivered price of natural gas appropriate in the Pacific Northwest for power generation and ran a number of sensitivities for higher and lower gas prices, Makovich said.

According to Makovich, the difference between CERA’s and McCullough’s conclusions is not the price of natural gas, anyway; “the real crux is that we assume if you have to replace CGS, you also have to replace its capacity—the megawatts it provides to meet peak demands.”

Maybe, but maybe not. The regional power system is different now than it was when CGS and most of our other baseload plants were built. The most economic replacement might not be another big baseload plant that has to run 24/7 to be efficient; perhaps a combination

of our existing wind capacity—which is sometimes in oversupply mode—and smaller, more dispatchable natural gas plants makes more sense.

I don’t know the answer, but one way to find out would be to take McCullough’s suggestion and issue an RFP to replace CGS.

And that’s the crux of it, really. Why *NOT* issue an RFP to see which numbers are actually right?

There’s some precedent for such an action. Back in 1998, a review panel charged with scrutinizing BPA’s costs came up with a series of recommendations for the agency. Recommendation number seven was “WNP-2: Aggressive cost management, flexible response to market conditions.”

One element of the recommendation was to “biennially subject the plant’s operating costs to a market test. Evaluate termination in the event operating costs are projected to exceed operating revenues.”

In its response to the recommendation, BPA said it intended to do just that—test “whether the market value of the WNP-2 output recovers annual operating costs of the plant.” In a 1998 Issues Fact Sheet (number eight), the agency said it intended to “solicit input on the precise nature of such a market test in a public process this year.”

BPA never conducted such a market test in 1998, and the idea no doubt seemed superfluous once the Western Energy Crisis of 2000-2001 overtook the region and power prices skyrocketed.

But once again, times have changed, so . . . why not do an RFP?

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If Portland General Electric’s 2012 RFP is any indication, there could be lots of bidders—maybe not the tabled Kalama project, but what about Troutdale Energy Center, Grays Harbor Energy or the Hermiston Generating Project?

I realize, as I suggest this, that if the regional drought worsens, or fracking is outlawed, or some other unexpected development puts pressure on supply and demand, the whole issue might be moot once again.

“Several things could change RFP results, and certainly we’ve had volatility in natural gas, primarily

in the East, and drought in the West,” McCullough acknowledged. “We’ll never find the perfect moment to ask the question, but today’s forward prices show significant savings all the way out to 2018.”

That’s what developers will look at if they respond to an RFP, he said. “One thing they won’t be proposing is to build a really expensive CCCT plant at Hanford.”

Like I said, I don’t know. But I’d sure like to find out
[Jude Noland].