

Big Money Talks: A Counterpoint To Knee-Jerk Reactions

Written by William C. Livoti
Tuesday, 17 May 2011 12:16



A “knee jerk reaction” as defined in the Free Dictionary by Farlex “is an immediate unthinking emotional reaction produced by an event or statement to which the reacting person is highly sensitive...in persons with strong feelings on a topic, it may be very predictable.” See where I’m going with this?

The natural disasters in Japan that led to the crisis at the Fukushima Daiichi power plant have raised questions—*rational or otherwise*—within the national media and among the public about the safety of nuclear power in the United States. At the risk of being just another contributor to the massive number of articles being published on the subject, I’m compelled to add my two cents. First, let me begin by saying I have no intention of commenting on the specifics of this tragic event. I’m simply addressing the reaction of the general public, politicians, numerous countries and, lest we forget, some special-interest groups. That’s where my reference to “knee-jerk” comes in.

No sooner had the tsunami retreated to the sea than word of the issues at the Fukushima Daiichi power plant hit the news. I certainly understand the importance of making such an event public—*that’s not where I am going with this story*. My issue is with the press: many in it went wild, jumping to conclusions, distributing what may or may not have been accurate statements and, in some cases, interviewing anybody and everybody claiming to have knowledge of nuclear power plants. As could be expected, the “pitchforks and torches” quickly came out against the nuclear industry.

The accident at the Japanese nuclear power plant has, regrettably, increased fears of and dampened enthusiasm for nuclear-generated energy in the U.S., as well as revived calls for more stringent safety regulations. The nuclear renaissance has most likely been delayed another decade or more. That’s unfortunate, as several utilities had planned to have new reactors online by 2018. Within hours of the recent Japanese event, many in our own country were recommending that we take our nuclear plants offline.

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So we shut 'em all down

What impact would the shutdown of the U.S. nuclear power plant fleet have on our already-fragile economic growth? Let's look at numbers:

The U.S. has 104 nuclear power reactors in 31 states, operated by 30 different power companies. According to information from the World Nuclear Association [Ref.1], in 2008, we generated 4119 billion kWh net of electricity, 49% of it from coal-fired plants, 22% from gas and 6% from hydro. Nuclear achieved a capacity factor of 91.1%, generating 805 billion kWh and accounting for almost 20% of total electricity generated in 2008.

Much of that nuclear total came from 47 reactors—*all approved for construction before 1977*—that came online in the 1970s and '80s, more than doubling U.S. nuclear generation capacity. What would happen if we were to take the knee-jerk approach of eliminating 20% of our power-gen capacity? The picture would not be pretty.

Nope, wind and solar would not be able to fill the gaping hole left by nuclear. The technology isn't there—*maybe in 10 to 20 years, but not today*. One thing is for certain: If we shut down our nuke plants, all of us would be paying more for electricity. Such a move would also place additional burdens on our coal-fired plants (coal being another much-maligned fuel source that now comprises some 52% of our power-generating capacity).

The power companies are already getting hammered with new air and water regulations that will cost the industry billions of dollars (not to mention lead to the elimination of even more generating capacity, given the fact that a number of older coal plants can't be brought into compliance.) The EPA's Clean Air Interstate Rule, passed in 2005, requires a 57% cut in U.S. SO₂ emissions by 2015. (Roughly 60% of U.S. SO₂ emissions come from coal-fired power plants.)

It's time to think rationally

Now what? We don't want nuclear and coal has been a dirty word for quite a while. In light of pending regulations, utilities are in a wait-and-see mode. Just how long, though, can we really wait, and what will we see?

Asset values for the existing generation are trading well below replacement cost. [Ref. 2]. Power

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prices tend to follow natural gas prices, and the boom in drilling has caused both markets to drop. Investors aren't willing to put money into new plants because they don't know when prices might rise again. These are the electricity prices that various types of power generators need to break even, according to one industry expert's calculations:

- Solar photovoltaic, \$236 per megawatt-hour
- Nuclear, \$117 per megawatt-hour
- Wind: \$115 per megawatt-hour
- Coal: \$63 per megawatt-hour (or \$87, including the cost to mitigate CO2)
- Natural gas, \$57 per megawatt-hour (or \$67, including the cost to mitigate CO2)

These prices, compared with those of the Texas wholesale power market where electricity recently has been trading around \$20 to \$50 per megawatt-hour, are putting the brakes on new electrical generation for the time being. Whatever happened to rational thinking? When will we ever learn? MT

References

1. <http://www.world-nuclear.org/info/inf41.html>
2. <http://www.gaskey.com/03282011-natural-rates-update-a-63.html>

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