

## **EXPERTS: EVEN HIGHER COSTS AND MORE HEADACHES AHEAD FOR NUCLEAR POWER IN 2012**

***Give Long-Term Uncontrollable Costs and Short-Term Pressure from Needed Post-Fukushima Safety Regulations, Nuclear Reactors Even Less Able to Take on Natural Gas, Other Alternatives***

**WASHINGTON, D.C. – December 28, 2012** -- With the Fukushima disaster, earthquake-related reactor shutdowns, further reactor project cost escalation, infighting at the Nuclear Regulatory Commission (NRC), and cheap natural gas, 2011 was a year the nuclear power industry would prefer to get behind it as quickly as possible. But, looking ahead to 2012, experts see continuing challenges that will make it extremely difficult for the nuclear power industry to expand in the U.S. beyond a small handful of reactor projects that government agencies decide to subsidize by forcing taxpayers to assume the risk for the reactors and mandating that ratepayers pay for construction in advance.

A new paper presented by Mark Cooper, senior fellow for economic analysis, Institute for Energy and the Environment, Vermont Law School, suggests that the cost of nuclear power, which already had risen sharply in 2010 and 2011 before the Fukushima disaster, could climb another 50 percent due to tighter safety oversight and regulatory delays in the wake of the reactor calamity in Japan. The Cooper paper is available online at <http://www.markcooperresearch.com/Nuclear-Safety-and-Nuclear-Economics-Post-Fukushima.pdf>.

Former Nuclear Regulatory Commission member Peter Bradford, currently adjunct professor on Nuclear Power and Public Policy, Vermont Law School, and former chair of the New York and Maine state utility regulatory commissions, said: **"With the Nuclear Regulatory Commission's recent approval of the design of the AP-1000 reactor and the anticipated approval of specific projects in Georgia and South Carolina, much is being written about a 'nuclear revival.' This is an important moment to compare what is really likely to happen over the next 10 years with the industry's expectations when the 'nuclear renaissance' was first announced a decade ago. When that comparison is performed properly, it becomes clear that we are witnessing not a revival but a collapse in expectations for new reactor construction. The two forthcoming projects are all that remain of a thirty-one reactor fantasy fleet that was said to constitute the real nuclear renaissance as recently as early 2009. It is important to understand that this collapse was well underway before the accident at Fukushima. It was the result of nuclear power's high costs compared to other alternatives. Fukushima and the unseemly effort of four NRC commissioners to oust the chair do nothing to enhance the appeal of nuclear power, but even if these factors vanished tomorrow, the pace of new reactor construction in the U.S. would not increase at all."**

Commenting on his new paper titled ***"Nuclear Safety and Nuclear Economics,"*** Mark Cooper said: **"Before Fukushima, the mythical 'nuclear renaissance' had already proven to be a bubble with the air rapidly leaking out of it. Fukushima will make it even more difficult to inflate. Fukushima is magnifying the economic problems that the 'nuclear renaissance' faced, which are the very problems that have plagued nuclear power throughout its history. Nuclear power suffered from high cost and continuous cost escalation, high risk and uncertainty long before Fukushima. The nuclear reactor disaster at Fukushima will increase the cost and further undermine the economic viability of nuclear power in any country that conducts such a review. The Japanese government has recently estimated that the cost of power from nuclear reactors will be 50 percent higher than estimated seven years ago. My analysis shows this increase is consistent with the impact of Three Mile Island and Chernobyl."**

Carol Werner, executive director, Environmental and Energy Study Institute (EESI), said: **"While nuclear energy still enjoys considerable support from the Congress and very significant subsidies, escalating costs for new construction, and uncertainty over adequacy of safety design and compliance following the August earthquake in Virginia, have not fostered realization of the 'so-called' nuclear renaissance. There simply are too many other choices which provide greater**

**certainty at lesser cost and without the enormous long-term unresolved problems and risks facing nuclear power."**

Highlights of the new Cooper paper include the following:

Fukushima has stimulated vigorous reviews around the world, in part because of the severity of the accident, in part because it is the worst accident affecting a nuclear reactor in a market economy and in part because it occurred in a nation that was assumed to have a high standard of safety and superb technical expertise. The challenges perceived by those responsible for nuclear safety around the world in the wake of the Fukushima accident are quite substantial.

Perhaps more striking than the technical issues raised by Fukushima, are the persistent institutional failures revealed by a comparison between the post-accident evaluations of Three Mile Island (TMI) and Fukushima. For decades, the nuclear industry has been plagued by:

- Failure of voluntary, self-regulation;
- Denial of the reality of risk;
- Lack of safety culture;
- Lack of a comprehensive, consistent regulatory framework;
- The challenge of continuous change and the need to retrofit existing reactors;
- Failure to resolve important outstanding safety issues;
- Failure to require existing reactors to add safety measures because of cost; and
- Complexity, confusion and chaos in the response to a severe accident.

With the global nuclear safety institutions expressing strong concerns, particularly the advanced industrial nuclear nations, and the aftermath of Fukushima likely to command attention for years as the extent of the damage and the challenge of decommissioning unfold, the issues are likely to continue to have traction.

The reviews stimulated by accidents are not limited to safety issues. In the wake of Fukushima re-evaluations of energy options and nuclear risks and economics have substantially dimmed the prospects for construction of new nuclear reactors:

- Major policy reviews by governments have led several nations to decide to scale back or abandon their commitments to nuclear power (including important large industrial nations like Japan and Germany);
- Financial institutions have conducted extensive reassessments of the economic prospects of nuclear power and concluded that the costs will rise (e.g. US\$);
- Utilities with nuclear plants in several nations have been downgraded by rating agencies; and
- Several major firms in advanced industrial nations have abandoned the sector or been forced to scale back their activities (e.g., Shaw Group, Siemens and Areva).

As the Cooper paper concludes: "As all stakeholders re-examine all aspect of energy policy, the risks of nuclear reactors increase and the attractiveness of nuclear power compared to other options decreases."

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**EDITOR'S NOTE:** A streaming audio replay of a related news event will be available on the Web at <http://216.250.243.12/nuclear2012.mp3> as of 4 p.m. EST on December 28, 2011. The Cooper paper is available at <http://www.markcooperresearch.com/Nuclear-Safety-and-Nuclear-Economics-Post-Fukushima.pdf>.