Squandering Money and Resources

The Obama administration has committed to providing more than $500 million for research, development and licensing support for Small Modular Reactors (SMRs). High-risk, high-cost, and highly questionable, small modular reactors are an unsustainable outlay of resources that are needed for real solutions: renewable energy and efficiency.

As proposed, SMRs would be a fraction of the size of conventional-scale reactors. They would be manufactured by assembly line and transported by truck, ship, or rail to their destinations. SMRs would also produce significantly less power — 300 MW or less compared to 1,000 MW for a typical commercial-scale reactor.

RADIOACTIVE PIE IN THE SKY With 4 nuclear reactors (power plants) closed in 2013, the "nuclear renaissance" is clearly in retreat. The nuclear industry is desperate to keep itself afloat and to keep taxpayer dollars flowing its way. The U. S. Department of Energy's (DOE) budget is 62% nuclear —of that 66% is weapons-related.* The DOE and the nuclear industry are anxious to present a "peaceful atom" face to the world. As a consequence, many types of uneconomic and impractical nuclear power proposals are now being bandied about. Powerful, entrenched forces have an inertia that the public must fight to overcome. Removing taxpayer funding is an important way to do this. *Robert Alvarez, Senior Scholar, Institute for Policy Studies, Washington, DC.

NOT ECONOMIC (with or without subsidies) In 2011 the Union of Concerned Scientists published ***Nuclear Power, Still Not Viable without Subsidies.*** This report shows that in some cases subsidies were greater than the value of the electricity produced. SMRs have not changed this picture. In February 2014Westinghouse announced they are backing off SMR development, saying "It would be difficult to justify the economics of small modular reactors at this point, especially without government subsidies."

NOT "SCALEABLE" Even creating a prototype SMR won't build the infrastructure necessary to manufacture prefabricated SMRs on a large scale. If SMRs can't be built on a large scale, their unit cost skyrockets.

SAME OLD PROBLEMS

- **Radioactive Waste** SMRs, like their full size counterparts, would produce lethal radioactive waste, toxic for hundreds of thousands of years. SMR offer no change to the problem of safely storing radioactive waste. Vast amounts of energy will be needed to isolate these dangerous wastes for generations to come. The proponents of SMR hope to build them in remote geographic areas that need new power sources, essentially introducing highly radioactive nuclear waste across the nation.

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- **Accident Vulnerability** Fukushima demonstrated how rapidly a nuclear accident can progress to a core meltdown. A terrorist attack on an SMR could cause damage worse than the Fukushima catastrophe, possibly in less time.

  The nuclear industry is urging the Nuclear Regulatory Commission (NRC) to adjust and modify safety requirements. Proposals include reducing the required number of plant operators, decreasing the size of emergency planning zones, and reducing security checkpoints.

ROLLING BACK SAFETY The nuclear industry is urging the NRC to "adjust" safety requirements for SMRs. Proposals include reducing the required number of plant operators on site, decreasing the size of the emergency planning zones, and reducing security checkpoints.

MISSING REGULTIONS The Nuclear Regulatory Commission has not yet produced a regulatory framework for licensing SMRs.

STILL UNTRIED The only place in the U.S. where an SMR license is actually being pursued is in Clinch River, TN, through the Tennessee Valley Authority. After over 3 years of dialogue with the NRC, even preliminary licensing questions have not been addressed.

RENEWABLES ARE THE *REAL* ANSWER!

Mitigating climate disruption demands sound investment in economical, expedient, clean and, most of all, safe technologies. Wind and solar are getting cheaper and more efficient by leaps and bounds. Advances are being made in energy storage. Geothermal energy is being tapped extensively.

Wind farms added about 13 gigawatts of new power in the U.S. in 2012. Solar photovoltaic (PV) plants added 4.2 gigawatts of electricity in 2013. And that's just solar PV. Solar water heaters have become very economic and popular. There are also concentrated solar power arrays that generate electricity directly from the sun's heat, so the total amount of solar power is actually higher than the PV number alone.

Amory Lovins of the Rocky Mountain Institute and Arjun Makhijani of the Institute for Energy and Environmental Research have written articles and books on ***how both carbon and nuclear can be replaced nationwide with renewables by 2050.*** Dr. Makhijani's book *Carbon Free and Nuclear Free: A Roadmap for U.S. Energy Policy* can be downloaded from the internet. The phasing out of nuclear power and coal is now well underway, and the switch to wind, solar and efficiency is quickly gaining momentum.

What you can do to prevent this waste of taxpayer dollars.

* Tell your elected officials that you want energy dollars to go for renewables and efficiency.
* Start the dialog in your community to prevent these dangerous "Back Yard Nukes".
* Check out the Nuclear Free Campaign of the Sierra Club Facebook Group.
* Follow @NuclearFreeSC on Twitter.

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