Squandering Money and Resources

The federal government has committed to providing more than $450 million for research, development and licensing support for Small Modular Reactors (SMRs). Future subsidies are certain. High-risk, high-cost, and highly questionable, SMR nuclear power plants require an unsustainable outlay of resources that are needed for real solutions: renewable energy sources and efficiency.

As proposed, SMRs would be much smaller than conventional reactors and produce correspondingly less power. The plan is to manufacture SMRs by assembly line and transport them to their destinations. A 12-unit NuScale SMR complex would produce 600 MWe or less, compared to 1,000 MWe for a typical commercial-scale reactor. Not much is “small” about a 12-unit entity – except that risk is calculated for 1 unit only.

SLOW IN DEVELOPMENT In 2014, after more than a decade and spending millions in development, Westinghouse left the SMR business, stating “no customers” as their reason. In March of 2015, Bechtel and BWXT quietly terminated their mPower SMR project. No SMR will be finished in the US until 2025 or later.

The only SMR design currently under development is by NuScale. Each of the 12 NuScale reactors would produce 50 MWe, for a maximum of 600 MWe. The units would all be housed in a single underground building, along with the spent fuel, and covered by water. The Nuclear Regulatory Commission (NRC) is in the process of reviewing the NuScale design.

The Tennessee Valley Authority has submitted an Early Site Permit Application to the NRC for an SMR project at Clinch River, Tennessee. Utah Associated Municipal Power Systems (UAMPS) has proposed a NuScale design SMR on land within the Idaho National Laboratory at Idaho Falls. UAMPS represents 47 municipal utilities, primarily in Utah.

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 nuclear power subsidies were greater than the value of the electricity produced. SMRs have not changed this picture.

NOT “SCALEABLE” It would take orders for at least 100 reactors to finance the factory to build modular units. The cost of site built SMR’s is prohibitive.

SAME MESS AND RISK

Radioactive Waste SMRs, like their full-size counterparts, would produce lethal radioactive waste, toxic for hundreds of thousands of years. SMRs 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. Under current US radioactive waste practices every SMR complex will become a long-term radioactive waste storage site after decommissioning.

continued on page 2
**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.

**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.

**RADIOACTIVE PIE IN THE SKY**  With the continued closing of nuclear power plants and the bankruptcy of Westinghouse due to massive cost overruns at 4 nuclear plants under construction, the nuclear power era is rapidly coming to a close. The nuclear industry is desperate to keep itself afloat. They cannot do so without keeping taxpayer and ratepayer dollars flowing their way. Robert Alvarez, Senior Scholar at the Institute for Policy Studies, Washington, DC, tells us that the U.S. Department of Energy (DOE)’s budget is 62% nuclear; and of that, 66% is weapons-related. Research for nuclear weapons and power overlaps. The DOE and the nuclear industry find it imperative to keep presenting a “peaceful atom” face to the world. Consequently, we are seeing a number of uneconomic and impractical nuclear power proposals. Powerful, entrenched forces have an inertia that the public must fight to overcome. **Removing public funding** is an important way to do this.

**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.

In 2016, wind power in the United States amounted to 226.5 terawatt-hours, or **5.55% of all generated electrical energy**. At the end of that year, the U.S. had 40 gigawatts of installed photovoltaic capacity, having almost doubled in capacity from the previous year. And that's just solar PV. Solar water heaters are very economical 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.

For More Information on SMRs, click on (or search for):

1) **Small Modular Reactors: Safety, Security and Cost Concerns**  Union of Concerned Scientists
2) **Light Water Designs of Small Modular Reactors: Facts and Analysis**  Institute for Energy and Environment Research
3) **The Economic Failure of Nuclear Power and the Development of a Low Carbon Electricity Future**  Cooper

**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 to prevent this nuclear dead end.
* Check out the Facebook Group “Nuclear Free Campaign of the Sierra Club.”
* Follow @NuclearFreeSC on Twitter.