

# Nuclear Florida

by Lothar Wedekind



***The USA has more nuclear energy plants than any country. But it's the next one that counts.***

**Miami, Florida** — In the land of sunshine, air conditioners hum ‘24/7’ even as oil, gas, and petrol prices climb. At the newsstands, global warming headlines top local stories.

Energy issues are driving debates, including those between candidates for the US presidency in 2008. People are taking a longer, harder look at what the future holds. ‘Nukes’ are part it.

Florida is among 15 States in the USA where new nuclear electricity plants could find a home. The country has 104 operating reactors, more than anywhere else. Plans list as many as 30 new plants.

The next one counts — destined to make 21st-century history as the first tangible sign of an American ‘renaissance’ on the world’s nuclear energy scene. US utilities and multinational consortia plan to start seeking licenses for the first of the next generation in 2008.

Americans have not seen a new order for a nuclear plant survive since the presidential days of Richard Nixon. All plants ordered before 1973 — when US utilities booked a record 41 reactors — were cancelled.

The outlook for finally breaking new ground is cautiously optimistic.

“Yes, we see growing support for nuclear energy,” says Skip Bowman, a retired Admiral from the US nuclear navy and now head of the Nuclear Energy Institute (NEI), the industry’s trade group. “But it’s not unqualified or unambiguous support...there are steps we must take to keep and sustain it.”

Mr. Bowman was speaking in Miami to the industry’s top leadership at NEI’s annual assembly in spring 2007. Of all the challenges he outlined that week, the foremost one promises to be financial — a new plant could cost anywhere from US\$3 billion to \$5 billion and take 10 years, maybe longer, before it produces any electricity.

Is the financial risk too high? Time will tell, but right now market uncertainties and the cost of capital are high hurdles, insurmountable for any one company. Some see the flowering of America’s nuclear renaissance nearly a quarter century away, around 2030 and beyond.

“Significant regulatory, financial, and infrastructure challenges stand between where we are and where we need to be,” cautions John Rowe, chief operating officer at Exelon, the country’s largest nuclear operator, and NEI’s board chairman. While he sees the problems solvable over the coming decades, “they do suggest that the renaissance in the US is still in the earliest stages.”

Mr. Rowe and other industry leaders point to past signs of a nuclear revival that fueled expectations and then fizzled under the pressure of more competitive electricity markets.

The USA had more operating reactors in 1990 (112) than it does today (104). Yet nuclear’s share of rising US electricity production has stayed steady at 20% — mainly by regulators giving green lights to extend the lifetimes or expand the power output of plants already on line. Plant performance and profits have run high.



Nationwide a handful of reactors have come into service after being refurbished or finally completed. One of the latest additions took 22 years to finish, at a reported cost of US \$7 billion.

In Florida, the licenses of all five nuclear plants have been extended to keep them running up to 40 years. They’ve been producing electricity since the early 1970s and 1980s, and today account for about 13% of the state’s supply. The groundwork is being laid for two new reactors, including one near Miami where two nuclear units already are located.

---

**Photos: The St. Lucie nuclear plant in Florida is one of five producing electricity in America’s ‘sunshine state’. More are planned.**

Photos: L. Wedekind/IAEA

“Our state adds 1000 residents every day,” says Jeffrey Lyash, who heads Progress Energy Florida, a utility serving 1.6 million homes and businesses. “Our electricity system must grow to keep pace.”

One of the biggest concerns for America's nuclear comeback is having the people to make it happen. The industry expects to lose more than 20,000 workers over the next five years. Just to support existing operations during that time will require nearly 100,000 entry-level staff.

“The US nuclear sector must recreate a nuclear design and construction industry that essentially has been dormant for the past 20 years,” says Mr. Dale Klein, Chairman of the Nuclear Regulatory Commission (NRC). Supply networks must be rebuilt, craft workers and welders recruited and trained, component manufacturing restored, industrial infrastructures reinforced.

The momentum and power of change could be tied to global warming and a renewed sense of urgency for energy security.

New US energy legislation adopted in 2005 gives nuclear development, and other non-fossil fuels, government financial backing. Public opinion surveys consistently find that people, including more environmentalists, see the need for more plants. Polls find that more people favourably link global warming and ‘carbon-free’ fuels that don’t produce greenhouse gases, like nuclear power. On this score and

others, most candidates to succeed US President George Bush accept the nuclear option in America’s energy mix.

Longstanding issues of safety and waste disposal are seen in different lights. For many people, the country's famous nuclear plant accident at Three Mile Island, Pennsylvania in 1979 is a history lesson, no longer a vivid memory of dramatic times. A planned repository for used nuclear fuel and high-level radioactive waste in Yucca mountain, Nevada is moving ahead, estimated to open in 2017 at best.

At the same time, plans are to reprocess used fuel for recycling while reducing proliferation risks. Recycling fuel won’t replace Yucca, experts say. A repository still is needed to dispose of by-products.

Challenges are formidable, the future uncertain. One thing looks clear — the next generation of plants will not be made in the USA. Partnerships with French, German, and Japanese companies underpin the nuclear renaissance.

In sunny Florida and elsewhere, the nuclear marketplace is a hotly contested, closely watched global affair.

---

*Lothar Wedekind is Editor-in-Chief and Head of the IAEA News and Information Section, Division of Public Information. Email: L.Wedekind@iaea.org*

## Paul Newman's Voice



**Paul Newman as Butch Cassidy and Robert Redford as the Sundance Kid in a movie poster of the 1970s.**

Photo: Twentieth Century Fox

One of America’s most famous actors and philanthropists, Paul Newman is adding his voice to the nuclear debate.

In May 2007, he endorsed nuclear power during a tour of Indian Point nuclear plant in New York. The plant’s safety and security especially impressed him. “It exceeded my expectations,” he said.

Mr. Newman’s film career started at about the same time as nuclear electricity generation in the USA, back in the 1950s. Many of his movies — including *Butch Cassidy and the Sundance Kid* and *Cool Hand Luke* — became worldwide hits.

An auto racing enthusiast, Mr. Newman manages a racing team that has joined with the Nuclear Energy Institute to help raise awareness among university students about nuclear energy and associated science and engineering careers.

Read this edition ←

online

[www.iaea.org/bulletin](http://www.iaea.org/bulletin)



new **directions**

Also get →

Past editions  
6 languages  
Additional features

- Arabic
- Chinese
- English
- French
- Russian
- Spanish

