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AT THE HELM OF SOUTHERN NUCLEAR OPERATING COMPANY,
CEO JIM MILLER HOPES TODAY'S GENERATION
SEES THE **GREEN** IN NUCLEAR ENERGY

BY JIM NOLES
PHOTOS BY JASON WALLIS AND COURTESY OF SOUTHERN NUCLEAR OPERATING COMPANY



“SINCE THREE MILE ISLAND, 100-PLUS NUCLEAR REACTORS HAVE BEEN OPERATED SAFELY AND RELIABLY IN THIS COUNTRY.” JIM MILLER

THIRTY YEARS AGO, AN ACCIDENTAL RELEASE OF COOLANT FROM THE CORE of Three Mile Island’s Unit 2 led to a partial reactor core meltdown at the Pennsylvania plant. Although there were no injuries, Three Mile Island chilled the development of nuclear power in the United States. For the past three decades, the percentage of electricity generated by nuclear power in America has remained constant at approximately 20 percent.

Jim Miller hopes that percentage is going to increase. He is the president and CEO of Birmingham-based Southern Nuclear Operating Company, a 3,200-employee subsidiary of The Southern Company. Southern Nuclear maintains and operates three nuclear plants in Alabama and Georgia. Currently, the company is poised, at Georgia’s Plant Vogtle, to begin construction on the first two new commercial nuclear reactors in the United States in the past 30 years.

Miller recently sat down with *Thicket* to share his thoughts on the future of nuclear energy in the United States.

THICKET: Before serving as an officer in the U.S. Navy and going on to law school, you graduated from the University of Alabama with a degree in marketing. The nuclear industry faces some significant marketing challenges, doesn’t it?

MILLER: Going forward, most of America has decided that nuclear power is safe from an operating standpoint. We have continuing opportunities to convince them that it is the thing to do. I think that it is particularly true now that we have a new generation of young people that do not think of nuclear power solely in terms of Three Mile Island. The heart

of any endeavor is the people, and they have to believe in nuclear power and that they’re doing the right thing.

THICKET: Speaking of the “right thing,” many people think that green energy is the right thing to pursue. Is nuclear energy a green energy?

MILLER: It is. It has big pluses. It enhances the quality of your life. It produces high concentrations of heat. It relies on a manageable engineering and science technology. As far as spent fuel is concerned, there is an ability to recycle it. And it has zero emissions because

you are not burning a carbon-based fuel, and you don’t have carbon emissions or sulfur emissions.

There are various forms of so-called green energy, all of which have their ups and downs. Solar energy is nice but not enough sunlight falls on the earth to drive a motor big enough to drive the machine that manufactured the car that you drove here in. And wind—everyone forgets that the wind sometimes stops blowing. The utility phrase is “interrupted service.” Well, people aren’t thinking in terms of green energy when their service gets interrupted. If you want a great quality of life you’ll have a great energy mix.

jumpstart that construction. Don’t be put aside by those that say you are subsidizing a private industry. What you are doing is creating energy security for the United States. And third, continue your efforts on recycling spent nuclear fuel.

THICKET: You mentioned Three Mile Island earlier. That incident was essentially the result of operator failure. Can you imagine such a failure happening at one of your plants?

MILLER: If we follow our procedures, no. We have very rigid procedures. We are very, very strict in our operational procedural adherence down to and including our language. We have a very specialized language. We use the phonetic alphabet and third party checks. I will say “turn knob XYZ,” and a third party will be standing by to make sure that you say to me “I understand that I am to turn knob XYZ,” and then we both watch to make sure that you turn knob XYZ. But if there was a nuclear power plant operator here, he or she would faint at the simplicity of the example (laughs). And keep in mind that we now have 30 years of experience following Three Mile Island. During that time, 100-plus nuclear reactors have been operated safely and reliably in the country. I think that the people of the United States know and understand that.

THICKET: Do you see President Obama’s new administration being friendly to nuclear energy?

MILLER: President Obama is from a state that has 11 nuclear power reactors. Illinois gets over 50 percent of its electricity from nuclear power. I would say that he is favorably inclined to nuclear energy. We think there are plenty of opportunities for success with this administration. The United States’ electrical needs will continue to grow. Nuclear will be part of that mix. I’m absolutely certain of that.

THICKET: If you had five minutes with Stephen Chu, the prospective Secretary of Energy, what message would you want to convey to him?

MILLER: First, Mr. Secretary, you are on target with the need for new nuclear power in this country. It is essential for the quality of life and the health and economic well being of our nation. Second, because we’ve had a 30-year hiatus on nuclear power plant construction in this country, the Department of Energy loan guarantees are a good way to

with a nuclear bomb is, as a matter of physics, impossible. A thermonuclear device has a plutonium pit about the size of a grapefruit. The plutonium is approximately 95-percent pure. Our uranium, depending upon how we do it, is five- to seven-percent pure. There is simply not enough heat energy in our fuel to produce an explosion. And remember—the containment structure around the reactor is sized and calculated based on the heat potential of the reactor. So even if there was an explosion, it would be contained.

THICKET: What can increased nuclear energy capacity (at Farley or at other Southern Nuclear facilities) mean for a region economically?

MILLER: Studies have demonstrated that nuclear power is the lowest cost producer of baseload electricity. Average nuclear production costs are 1.7 cents per kilowatt-hour. Those costs encompass operating and maintaining the plant, purchasing nuclear fuel, and paying for the management of used fuel. Electricity generated from nuclear power also has tremendous forward price stability because fuel costs are only a small part of total production costs. The low and stable cost of nuclear power not only helps reduce the price of electricity paid by individual consumers but, on a larger scale, can play a key role in attracting those major industrial developments (for example, automobile manufacturers, aerospace endeavors, or steel mills) that require a low-cost, reliable source of electricity.

THICKET: What wakes you up at night?

MILLER: The idea that somewhere else in the world, at a reactor not built, operated, inspected, and regulated to our standards, there will be an incident. And that incident will, through the ensuing outcry and publicity, derail public opinion here in the United States and change Americans’ minds that nuclear energy is not the smart thing to do here. Because it is. 🍀

THICKET: There are certain concerns that accompany nuclear energy—the threat of radioactive contamination, for example, whether through accident or sabotage.

MILLER: The threat of contamination is known, understood, manageable from scientific and engineering perspectives, and managed. You’d actually be exposed to more radiation on a New York-to-Los Angeles airplane flight than you would be standing in one of our parking lots. It’s just an industrial event for us.

As far as a terrorist threat is concerned, I’ll remind you that our employees wake up every day and go to work inside a fenced, barbed-wire compound guarded by men and women with powerful weapons and access to even more powerful weapons.

And keep in mind that, at a nuclear power plant, an explosion of the type you associate

For a counter argument outlining the downsides of nuclear energy, visit thicketmag.com.