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STEVEN P. NESBIT: UP TO THE CHALLENGE

BY PAUL LATOUR

THE 67TH PRESIDENT OF THE AMERICAN NUCLEAR SOCIETY LOOKS TO EXPAND THE SOCIETY'S OUTREACH ACROSS THE NUCLEAR SPECTRUM.

If there's one thing Steven Nesbit enjoys in life, it's the challenge brought on by change. Whether that means growing up as a self-described "Marine brat" and moving five times before junior high school or transitioning in his professional career from the engineering side of the nuclear industry to the spent fuel and policy-driven side, Nesbit welcomes change. "I don't mind turning the crank for a while, but I like to learn new things, and the best way to do that is to do new things."

Nesbit, an expert in nuclear fuel, spent fuel, and nonproliferation, takes on his latest challenge—that of serving as the 67th president of the American Nuclear Society—eager to build on his predecessors' legacies. He sees the position as being part bureaucrat and part spokesperson for the Society. "I refer to it jokingly as 'cheerleader,' but it's actually more than that," he said. "It is representing the Society to external stakeholders and organizations, developing those relationships, and helping ANS have the role and influence that it needs to have in terms of explaining and promoting the application of nuclear technology." In many ways, Nesbit has already been fulfilling that role, having represented ANS before Congress and in the media.

An ANS member since 1989, Nesbit has held a variety of leadership positions within the Society. He is chair of the ANS Nuclear Waste Policy Task Force and past chair of the Public Policy Committee. He served as vice chair of the Special Committee on Government Relations and was a member of the Special Committee on Advanced Nuclear Reactor Policy. He chaired the Nuclear Nonproliferation Technical Group, forerunner of the Nuclear Nonproliferation Policy Division. It was in his role with the Nuclear Waste Policy Task Force that he represented ANS before Congress.

Still, as much as Nesbit enjoys a challenge, he's aware of his own limitations. He holds great respect for past president Andrew Klein (2016–2017) for introducing the Nuclear Grand Challenges initiative during his term. Nesbit said he isn't fooling himself into thinking he will top that accomplishment in his presidential tenure. "With his Grand Challenges, Andy Klein is probably the crème de la crème in terms of an ANS president leaving a memorable footprint that really resonated with the community," Nesbit said. "There's no way I'm ever going to equal that. I'm not even going to try, but I am going to have a couple of focus points as I carry out my job."

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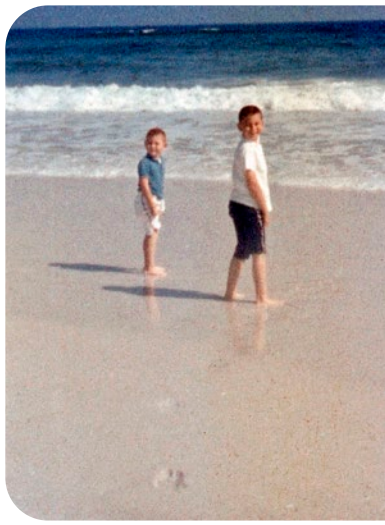
One of his objectives is to collaborate with other organizations, policy-making bodies, and individuals to improve the environment for nuclear technology, both nationally and internationally. "The presidency of ANS is, among other things, a 'bully pulpit.' I look forward to extolling the benefits of nuclear technology while acknowledging and speaking frankly about the challenges it faces. I think my experience on a variety of high-profile projects and my background in public policy prepares me for that role."

Nesbit says he also wants to strengthen ties with organizations such as the Nuclear Energy Institute and the United States Nuclear Industry Council, as well as government agencies and the national labs. "There's a whole slew of nongovernmental organizations that are interested in and supporting nuclear technology because of the potential for nuclear energy to help address the challenges of climate change, and so those are relationships that we need to continue to nurture," he said. He sees part of his job as ANS president to be out in the public interacting with those groups, being the advocate who makes the technology accessible to those who are not immersed in the jargon and the technical details. "We have to leverage those relationships to the advantage of ANS and what we can do in terms of promoting the use of nuclear technology."

CHILDHOOD

Born on November 28, 1958, to Charles and Patricia Nesbit on the Marine base at Quantico, Va., Steven P. Nesbit became accustomed to change from an early age. Charles was a member of the Marines, so the family moved often based on his assignments. Patricia was a stay-at-home mother until becoming a history/social studies teacher when Charles retired. In those early days, Charles, who served in the Korean and Vietnam wars, was often away on duty. But he was able to be present for Steven's birth due to a fortunate and unexpected day off. At the time, he was a pilot in the helicopter squadron that flew President Eisenhower and Vice President Richard Nixon in Marine Corps 1. Nixon had no travel plans on the day Steven was born, so he dismissed the team for the day, which allowed Charles to be with Patricia for the birth of their second child.

Steven and his family moved five times before he was in the eighth grade. From Quantico they moved to the Greensboro, N.C., area for a year



Top left: A young Steve Nesbit holding his diploma at his Pensacola, Fla., Christian Academy graduation.

Top right: Steve and his brother, Chuck, at a beach in Pensacola.

Bottom: Steve (right) with Chuck and their father, Charles Sr.

Left: Steve (right) and Chuck heading off to school.

Right: Steve with his mother, Patricia, on his graduation day from Lejeune (N.C.) High School.

Below, top: Steve posing with his 1965 Ford Mustang at Camp Lejeune.

Below, bottom: Steve (top) enjoying time away from his studies with some University of Virginia classmates.

while Charles served in Japan. Then the Nesbits headed to Pensacola, Fla., where Charles was a flight instructor, followed by a tour of duty at the Marine Corps Air Station in New River, N.C. The family stayed near New River while Charles went to Vietnam, and that was followed by a move to northern Virginia for three years prior to returning to North Carolina, this time to Camp Lejeune, where Steve completed junior high and high school. "By and large it was a good experience," Nesbit said of his childhood. "The Marine families pull together. The downside is you move every three or four years, so you get uprooted, and you've got to make a new set of friends. But everybody else is in the same boat so you get used to it."

At the on-base Lejeune High School, Nesbit nurtured many interests, including a love of reading and playing sports. He was and still is a big reader. Although he's partial to science fiction, he was taking a crack at *Middlemarch*, the epic 19th-century novel by George Eliot, when he was interviewed for this article. Nesbit played basketball in high school but loved all sports. He said he also enjoyed all his school subjects, particularly math and science. But even that wasn't a given when it came to choosing the University of Virginia for his undergraduate work. Nesbit's older brother, Charles "Chuck" Nesbit, was already attending the school, so Steven was familiar with it. He was most impressed that it not only had a strong engineering program but also a good liberal arts college. "I figured if I didn't like engineering, I could just transfer over to liberal arts without having to go to a different university," he said.

Nesbit earned his bachelor's and master's degrees in nuclear engineering at Virginia. While there he also enrolled in the Naval Reserve Officer Training Corps, prompted by his interest in nuclear-powered submarines. That didn't last. "I decided after a couple years that I was probably not cut out for the Navy," he said. "But even though I decided not to stick with the Navy part, I figured nuclear engineering was a good way to go." By sticking with his major, Nesbit was able to gain valuable experience working with the university's research reactor. He still recalls the eerie blue glow, known as Cerenkov radiation, from the reactor core in operation. "What you typically see in pictures is spent fuel assemblies in a pool or something like that, and the glow is pretty muted," Nesbit said. "But when you're talking about a reactor core that's 19 feet away underwater and running at 2 megawatts, it's a pretty impressive sight." That experience helped solidify his career path into nuclear engineering.

CAREER

Nesbit finished his coursework at Virginia in the fall of 1981, just two years after the Three Mile Island accident, a watershed moment for the nuclear

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industry. Although it might seem like a bad time to be entering the field, Nesbit said his experience was just the opposite. "One factor of Three Mile Island that people may not realize was that it was this incredible boon for the nuclear engineering job market," he said. Companies that owned or were building new nuclear plants suddenly were forced to adapt to increased regulations from the Nuclear Regulatory Commission in the wake of TMI. "Everybody was hiring—there were jobs galore," Nesbit said. "The early 1980s was a really good time for the job market, for a few years anyway."

He eventually accepted a position at Duke Energy, then called Duke Power Company, working in its safety analysis group. During the eight-plus years he spent in that department, Nesbit helped provide central office support for Duke's three reactors by doing accident simulations. He also helped write emergency operating procedures, as Duke was upgrading its simulators and striving to meet the increasingly stringent NRC regulations. While he enjoyed that work, he knew he didn't want to spend his entire career doing it. "Working for a nuclear utility, it's easy to get siloed and end up doing the same thing over and over for years and years. You become the subject matter expert on this one little aspect of the plant or technology. I didn't want to do that."

Nesbit looked around at Duke for other opportunities and ended up taking a job with Duke Engineering and Services, a subsidiary of Duke Energy. His role there allowed him to break out of the utility world and into the federal sector, which gave him a wider perspective on the industry and nuclear technology in general. "I liked being able to see other companies and other ways of doing things," he said. "That's maybe where I started to get interested in some of the policy aspects of nuclear technology. Up until that time I'd been doing primarily what I would refer to as hard engineering that really didn't get into the public policy side of things too much."

For his first job with Duke Engineering, the company was brought in by the Department of Energy as consultants for the development of a new reactor to produce tritium for nuclear weapons. But with the end of the Cold War, the need for tritium was reduced significantly, and the DOE decided to scrap the new production reactor project. That led to Nesbit's next Duke Engineering opportunity—working on the Yucca Mountain repository project.

Nesbit moved to Las Vegas in the fall of 1992 to help with the controversial project that the state of Nevada was vehemently opposed to. Frustration with the project eventually led Nesbit to seek another position with Duke back in Charlotte. "I got to work with a lot of really smart and dedicated people on the Yucca Mountain Project in fields I probably never would have interacted with if I'd have stayed as just a utility guy," Nesbit said. "I got an understanding and appreciation of a part of nuclear technology, the

Top: Steve with William States Lee III, the former chief executive officer of Duke Power Company, while working on the Yucca Mountain Project in Las Vegas, Nev.

Bottom: Steve providing testimony during the Senate Energy and Natural Resources Committee hearing on nuclear waste management on June 27, 2019, in Washington, D.C.

Steve standing at the summit of Mount Charleston, the highest point in Clark County, Nev., in 2013.

waste management end of things, that I hadn't been exposed to. The day-to-day work experience may not have been the most pleasant, but I probably learned as much or more in those three years out at Yucca Mountain as I have in any other three years I've had in my professional career."

Nesbit transferred back to Charlotte in 1995 to work on other Duke Engineering high-level waste projects, which included a generic design of an interim storage facility for spent nuclear fuel. A year later, Nesbit started work on a Duke Energy initiative to convert weapons-grade plutonium into mixed oxide (MOX) fuel that can be used to power reactors. Just like with Yucca Mountain, the project was controversial and further exposed Nesbit to policymakers in Washington, D.C. "This project was technically challenging but also involved public relations, stakeholder interactions, the policy issues, all that kind of stuff. So it was really a watershed thing for me to work on," he said.

Nesbit became the manager of the Duke Energy portion of the project, which involved preparing nuclear power reactors to use MOX fuel and obtaining the necessary approvals from the NRC. After nine years on the project and the successful loading and use of MOX fuel lead test assemblies at the Catawba Unit 1 reactor, Nesbit again switched roles, becoming the spent fuel manager at Duke.

More change was on the way. Within a year, Nesbit felt an itch to return to technical work, so he took off his manager hat and joined Duke's methodology group for the next several years. In 2009, he accepted a position as director of nuclear policy and support for Duke, reporting to the company's chief nuclear officer. He stayed in that role until he retired in 2018, handling a variety of assignments, including serving as the company's spokesperson on the Fukushima accident. But the bulk of his policy work involved spent fuel in some capacity. He worked closely with the Electric Power Research Institute and other groups to examine and evaluate spent fuel storage solutions.

"The technical consensus now is that there's no reason why we can't store spent fuel for a very long time in the dry storage containers that they were originally loaded into," Nesbit said. "We don't know how much longer, but it's a lot longer than the original license period of 20 years. And we've developed a means of monitoring the spent fuel canisters while they're in storage to make sure that they maintain their integrity, which is very important as well."

Nesbit also represented Duke with various industry groups. He testified before the House Energy and Commerce Committee's Subcommittee on the

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Top: Steve with his oldest daughter, Rachel, outside of Las Vegas during a 2011 hike.

Bottom: Steve with his three children—Rachel, Benjamin, and Rebecca—during a hiking trip to Grand Teton National Park in 2014.

Environment on April 26, 2017, on behalf of the U.S. Nuclear Industry Council and Duke, and before the Senate Energy and Natural Resources Committee on June 27, 2019, on behalf of ANS. Both appearances were related to waste management issues.

When Nesbit parted ways with Duke, he wasn't ready to retire altogether. So he decided to go the consulting route and created LMNT Consulting in 2019. "I've been fortunate enough since then to have plenty of work to do in a variety of areas," Nesbit said. "I'm glad I went into consulting instead of taking a full-time position with another company. I get to work from home and do fun and interesting things and get paid for it."

FAMILY LIFE

Nesbit and his first wife, Jeanne, married in 1993 and had three children together, Rachel, Benjamin, and Rebecca. The couple divorced in 2011. Aside from his work and professional interests, Nesbit stayed busy with his children's activities when they were young, doing some coaching, taking them on mission trips with their church, and supporting their school projects and extracurricular activities. In 2009, he started and taught a course on nuclear engineering for fourth-year mechanical engineering students at the University of North Carolina at Charlotte. "I taught it for four years and really got a lot out of it," he said. "I'm glad I did it, and I'm glad UNCC gave me the chance to." For recreation, Nesbit likes to spend time outdoors, including skiing in the winter and hiking year-round.

Nesbit and his current wife, Shelley, married in the mountains near Asheville, N.C., on June 28, 2019—just a day after his second appearance before Congress. It made for a hectic couple of days, but Nesbit pulled it off. "I managed to do the testimony and then a little ANS webinar and still catch the flight back to Charlotte in time to run up to the mountains and get married that weekend," he said.

It was just another example of Nesbit's ability to succeed in meeting a challenge.

Paul LaTour is a staff writer for Nuclear News.