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Stan Hatcher

Looking for opportunities as the 42nd ANS President

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Stan Hatcher: Opportunities of a lifetime

As Stan Hatcher takes over the reins of ANS, he plans to promote issues of the day as well as prepare for the major role nuclear power must play in providing electricity worldwide.

FOLLOWING A LONG and successful career with Atomic Energy of Canada Limited—his most recent position being president and chief executive officer of AECL—Stanley R. Hatcher has become the 42nd president of the American Nuclear Society. As standard-bearer for ANS, Hatcher plans to focus on promoting issues of the day, such as food irradiation and waste management, while preparing for the major role that nuclear power must inevitably play in the future.

Hatcher is the first Canadian president of ANS in 35 years, since W. B. Lewis served in 1961–62. He is an unassuming man, and credits his many successes in life to the opportunities that have been presented him rather than to his determination and persistence.

Opportunities, he feels, play an important role in the success of an individual, a company, and a society. By taking advantage of opportunities, and more so by creating an environment for opportunities to occur, a foundation for success can be laid.

For the expansion of nuclear power, success in the near future will occur overseas. But for expansion of nuclear power in North America within the coming decades, successful strategies must be started now to create opportunities for the next century.

Village life

In the farmlands of south central England, Stan Hatcher was born in 1932. An only child, he lived with his parents Reg and Nellie in the small farming village of Downton, in the county of Wiltshire. Downton, with a population of about 2500, was 80 miles from London, and 20 miles from the port city of Southampton.

"Downton," Hatcher recalled, "was very old-village minded," meaning that the villagers were not the sort to go out into the world to make their marks. Instead, most lived their lives there, working on farms or at one of the village shops or industries. Education was provided by the village school, where students were instilled with enough knowledge to get them out into the workforce. Few students went on to higher education. "I didn't plan on going any further than the village school when I started out," he said.

In England at the time, a critical exam was given to each student nearing his or her 11th birthday. The results of the exam determined whether the student stayed at the village school or moved on to higher education aimed at university entrance. The higher education was obtained at a grammar school, equivalent to a junior high and high school in the United States. "I was one of the lucky ones," Hatcher said. "I scored high enough on the exam to be accepted at a grammar school in the nearby city of Salisbury."

The year was 1943. England and its allies were at war with Germany. On the plains of Wiltshire, American troops camped at training bases near Downton. At night, from his bedroom in his parents' home, the young Hatcher would look toward the port city of Southampton and see the fires that resulted from the German bombing raids.

His village, 20 miles north of Southampton, was never a direct target, but suffered damage from stray bombs. "If bombers had gone to industrial areas in the midlands and hadn't found their targets, then heading home they'd just get rid of their bombs," he said. "We got a few like that. One blew all the windows out of our house. But no lives were lost. No severe damage. Just broken glass."

Life went on, even through war, and each day Hatcher would catch a country bus to the Salisbury grammar school, seven miles from his home. Because of the war, Hatcher's class attended the school only in the morning, while students from another city occupied the building in the afternoon. "We shared the school with kids evacuated from the bomb centers," he said. "We had students there from Portsmouth, which was a naval station subject to a lot of bombing. They shared our school with us, six days a week, Monday through Saturday." Afternoons for the Salisbury students were spent playing sports, particularly rugby, in Hatcher's case.

As time passed and Hatcher entered what here would be considered the high school

Stan the toddler

"Take the photo already so I can get on with playing rugby, then."

years, he became interested in chemistry. The school's headmaster—known in the United States as a principal—advised Hatcher to take his chemistry knowledge upon graduation and start a career at an oil refinery. "The headmaster figured I'd better start looking for a job because I would never make it at university," he said. "He and I crossed swords a couple of times while I was in school. We all wore uniforms at the school, and before the war the uniform consisted of a navy blue blazer and blue-grey shorts. During the war, of course, we had a more utilitarian uniform, and after the war he wanted to get back to the original uniform. By this time, I was in my teens and I wasn't too interested in going back to shorts."

So Hatcher was one of the few students who stayed in long pants while most others switched back to shorts. "The principal never loved me for being a rebel," he said.

With graduation near, Hatcher had plans other than working at an oil refinery. "My ambition was to be a fighter pilot, fly a Spitfire," he said. "But I wasn't old enough to join the air force upon graduation. And with what the headmaster had said, I decided to apply to a petroleum company for a job at a nearby refinery, because I thought it would have some good chemistry."

There, one of the main influences in his life was a man whom Hatcher has never met. "I don't know his name, never met him, never saw him, but he was at the personnel department at the oil company," he said. "He wrote to me after I submitted an application for employment. In his letter, he said, 'If you want to have a good future in the oil industry, you'd better get yourself to Birmingham University and get a degree in chemical engineering.'

"And so I said, 'Well, why not?'"

University years

"I was 17, and I had not seriously contemplated going to university because it was not part of the village culture that I had come from," Hatcher said. But heeding the advice of the unknown man from the oil company's personnel department, he applied to the university, got an opening, and headed off to Birmingham to earn a degree in chemical engineering.

Birmingham University was 120 miles from Downton, and at school he lodged in family homes for four years. While at school, flying became his passion, and he joined the university's air squadron. He learned to fly, receiving training each week and during the summer at the air squadron camp. "I went through university, studied for the oil industry, and figured that in 1953 when I would graduate I would go into the air force," he said.

But the best laid plans . . . "Graduation rolled around, and I surprised myself and the faculty by getting higher marks than any of us expected," he said. "I was invited to do postgraduate work. I started that, still working on a project that was to do with oil."

During the final year of his master's program, Hatcher saw an ad placed by the University of Toronto, Canada. It offered a part-time teaching position with the opportunity to get a PhD in the chemical engineering department in Toronto. He applied and was accepted. The summer of 1954, at the age of 22, he would be off to Toronto.

But first there was the issue of getting married. Gladys Robinson worked for Birmingham University in the student office that produced a chemical engineering magazine, where Hatcher was advertising manager. The two met while working together in the office, started dating, and decided to plan a life together. "Of course, the timing was all wrong," said Hatcher, "because I had already committed to come to Canada. So we decided that since we couldn't yet afford to get married, I would go to Canada, do a degree in two years, then come back to England and we would get married."

That arrangement didn't last. "We weren't very long into the first year when we decided that it wasn't a very good idea at all," he said. So he finished with his first year at the University of Toronto, got a job during the summer with DuPont Chemical Company, and earned enough money to buy a ticket back home. Meanwhile, Gladys had saved enough money for both of them to return to Canada after they had wed. On September 17, 1955, the couple were married, and afterwards took the Queen Mary ocean liner back to New York City, and the train from there to Toronto.

Going nuclear

Pursuing his PhD at the University of Toronto, Hatcher had his career sights aimed directly at the oil industry. A year or so before graduation in 1957, he interviewed with a number of oil companies in Canada and the United States. A professor who had worked for Canada's national laboratories suggested looking into the nuclear field. "He had worked at Chalk River one summer and it was quite exciting work," he said. "So I applied to Atomic Energy of Canada. The long and short of it was that the jobs that were offered to me in the oil industry were uninspiring and pretty routine. But the nuclear industry just seemed to have its future in its hands. So all of a sudden I quit being interested in the oil industry and went into atomic energy."

Hatcher's career has involved many facets of the nuclear industry, from research and development, to operations, marketing, waste management, governmental liaison, being president and chief executive officer of Canada's national laboratories, and then being an industry consultant. Yet he credits one thing—the *opportunity* to work in these areas—as the key to any success he has enjoyed. "I believe that my generation was perhaps the most fortunate of any generation that has walked the earth, and perhaps more fortunate than any that will walk the earth from now on," he said. "When I started in the industry in 1958, it was a time of incredible opportunity. Everything was expanding, growing with new technology. I never had a career plan, but

Wedding day, September 17, 1955

Vice president and general manager of Whiteshell Laboratories in 1979, Hatcher (left) and an AECL geologist in northern Ontario after examining rock formations for waste disposal research.

the opportunities just seemed to be there. So I was very fortunate."

When he started in the nuclear industry in 1958, it was in the R&D section of Chalk River Labs, in the province of Ontario. He worked on a new 200-MWe research reactor that was used partly for plutonium production for the United States and partly as a large-scale high flux test reactor. The reactor was running into startup problems, specifically with some fuel that was failing, and uranium getting spread around the cooling circuit. Hatcher had two responsibilities concerning the research reactor: One was on decontamination to remove the uranium from the cooling circuits, and the other was on changing the chemistry of the reactor cooling system, because aluminum from the fuel cladding was dissolving and mixing with the cooling water, turning it a milky white. Within his first year as a research engineer at Chalk River, he successfully solved those two problems. He then moved on to R&D for the design of Canada's first Candu reactors.

Five years later, by 1963, Gladys and Stan Hatcher had added four sons to the family: Adrian, born in 1957, Kevin in 1959, Michael in 1961, and David in 1963. By 1963, too, Hatcher received his first major promotion, to head of the chemical technology branch at AECL's new Whiteshell Lab in Manitoba province. Packing up their belongings, it was time to head west like some modern-day pioneers. "The industry was growing so rapidly that Canada decided it needed a new research center," he said. "Rather than making Chalk River bigger, it would build a new one."

The new research center was built out in the wilds of Manitoba. "They were looking for people to go out and start it up," he said. "So when my wife and I and our four very young boys headed west in 1963 with 30 other families, we built a new research center and we built a new town."

The town was Pinawa, and it was populated by families of the scientists and engineers who worked at Whiteshell. Work at the time paralleled programs that were taking place in the United States. The first major project at Whiteshell was an organic-cooled reactor that was based on work initiated by Atomics International, of California. In Canada's system, the organic was a liquid mixture of hydrogenated terphenyls that looked like lubricating oil. "This prototype reactor that we built was of interest to the U.S. program, and so the U.S. Atomic Energy Commission struck an agreement with us to share the facilities of this new reactor and to share our programs," he said. A team from the United States came up to live at Whiteshell, and together the Canada–U.S. team resolved the problems of organic coolant performance in high radiation fields and at high temperatures.

For five years the Hatchers lived in Pinawa, but by 1968 they were packing again, this time for England, as Hatcher became Canadian liaison officer responsible for technology exchange between the two countries. It also allowed the Hatcher children to spend time with their grandparents and their Aunt Frances, Gladys's sister. In the mid- and late 1950s, Frances had come to Canada to live with and help support the Hatchers as Stan finished up his PhD program.

Following a year in England, the Hatcher family was back in Canada, with Stan serving through 1973 again as head of the chemical technology branch at Whiteshell. From there, he headed the process technology group of the Bruce heavy water plant, a joint project of AECL and Ontario Hydro. Bruce was the largest heavy water production plant that had been built to that date. "It was having startup problems," he said. "They could reach only 50 percent design capacity, and they needed somebody with a chemical engineering background to lead a plant development group that would find out why it couldn't get to capacity and what modifications to design had to be made." Within six months, full capacity had been achieved.

By 1974, Hatcher was back at Whiteshell, as director of the applied science division. "By that time, the whole nuclear industry was booming so strongly that we all seriously thought we might run short of uranium," he said. "There was a lot of work on reprocessing of fuel and recycling of the plutonium, and fast-breeder reactors were coming along."

Soon after, in 1977, President Jimmy Carter put a stop to U.S. reprocessing plans. "We of course were very disappointed in that, because there's no question that we all looked to the U.S. as a leader in that field at the time," Hatcher said. "We ourselves were not so concerned with the fast-breeder reactor, but we were certainly interested in the fuel-cycle work that was going on as part of the fast-breeder program, the whole idea of recovering plutonium from spent fuel and reusing it."

It was a blow to the Canadian program as well as to the U.S. program. It wasn't long after that the demand for electricity started to slow down and new orders for nuclear power plants became harder to come by. "All of a sudden, the specter of running out of uranium didn't seem so important anymore because the industry wasn't expanding at the rate that we had conceived earlier," he said.

Meeting the public

In 1977, the same year that Jimmy Carter made his pronouncement on reprocessing, Hatcher became assistant to the AECL vice president of research. The issue on the table was the selection of a site in Canada for a national fuel-cycle center for reprocessing and waste disposal. Hatcher's job was to start the planning and to work with the federal government to obtain funding. "We had been doing some geologic research on some granite rock in southern and northern Ontario," he said. "We had several sites where we were doing drilling, and it was about the time that the first public outcry against waste disposal came up."

A community in southern Ontario decided it wanted no part of the fuel-cycle center—despite the fact that AECL was not actually looking to build the center in that area, but was doing only research to determine whether granite would be a good host rock for waste disposal.

Hatcher met with a local politician and some concerned citizens to arrange a public meeting to discuss the drilling project. The politician said about 100 people would attend the meeting at the town hall. What Hatcher walked into was a hornets' nest. An antinuclear group had come and organized the town. Demonstrators dressed as skeletons danced about the town square. Instead of 100 people attending the meeting, 800 packed the town

hall, with another 400 in an adjacent auditorium that had audio piped in from the meeting. A dozen newspaper reporters and six television stations were on hand, and for hours Hatcher was under the glare of TV lights. "I had never had any experience in talking to a town hall meeting where the audience was not entirely friendly," he said.

The meeting started at 7 p.m., the press left four hours later, and the meeting eventually wrapped up at 12:30 a.m. At least there were no tomatoes thrown, he remembered. "I had never in my life encountered a hostile meeting like that," he said. "They put on a great big show, and that was the end of any work in that area of Ontario."

As a result of the meeting, the federal government and the provincial government of Ontario determined that AECL could not do even research work in the field without federal, provincial, and local approval. It was 1978, and AECL was undergoing reorganization. Hatcher was named vice president and general manager of Whiteshell Labs, in a capacity that was a mixture of technical, management, political, and public information regarding the research work needed for a national waste management program. "Finally," he said, "after a year or two in negotiations with the federal and provincial governments, a deal was hammered out where we could carry on with the research work, keep everybody informed, and obtain local approval."

With that success came his move in 1981 to vice president of AECL's marketing and sales. He was lead man on proposed sales of Candu reactors to Mexico and Turkey, but both deals were canceled because of financial difficulties experienced by the purchasing countries.

In 1985, Hatcher was named president of AECL's research division. "The writing was on the wall that federal funding for R&D was about to start going down and we were going to have to restructure our research operations quite a bit," he said. "Since I had spent most of my career in R&D and in R&D management, and the most recent years were on the commercial side, I was asked to head up the entire research organization and prepare for this change in federal funding and the impact it would have on the labs."

It was also during this time that Hatcher became a member of ANS. "I wanted to renew the ties that we had with the U.S. nuclear industry, because they were starting to see the same writing on that wall that we were," he said. "It was a good opportunity to do that and get involved. In fact, I was invited to become a member of the board of ANS, because on the board there was a Canadian representative who was unable to continue. The board wanted a replacement for the remainder of that member's term, and so I was invited."

Within four years, in 1989, the president of AECL announced his retirement, and the company turned to Hatcher. "We were already into the drop in funding for R&D, and we hadn't had any orders for Candu reactors in two or three years," he said. "The government was wondering whether to continue with AECL or to abandon it. Again, since I was probably the person in AECL who had the broadest experience—I'd been around and worked in all these areas, done all these things, knew all these activities, including the political end—I was asked to take over on an interim basis initially to work with the government to try to decide whether the company should be folded or continued."

His first year as president and chief executive officer of AECL was admittedly "hard slogging," negotiating with the federal government to convince it that nuclear science and technology were important to the country. But AECL finally reached an agreement with the government. "We had a deal that for seven years, through 1997, the R&D funding would be maintained at a stable level," he said.

That same year, 1990, the company won an order for a unit in Korea, followed by two more Korean units ordered within the next two years.

Hatcher left AECL in 1992 after 35 years to become an industry consultant. "I'm ready to devote more of my energy to the future of the business," he said. Since then, he has been president of the Pacific Nuclear Council, has cofounded the Eagle Alliance, and was a principal author and the editor of the International Nuclear Societies Council's *A Vision for the Second 50 Years of Nuclear Energy.*

Noted achievements

Stan Hatcher is a Fellow of ANS, honored in 1996, and he has served three terms on the ANS board of directors. He is also a charter member of the Canadian Nuclear Society, and a Fellow of that society and of the Canadian Academy of Engineering and the Chemical Institute of Canada. He is a recipient of the Ian McRae award of the Canadian Nuclear Association (CNA), which annually honors a nuclear professional who has demonstrated leadership in the Canadian nuclear industry.

Hatcher also has been a vice chairman and director of both the CNA and the Energy Council of Canada, and a governor of the World Energy Forum.

An accomplishment in 1991 earned him no official accolade, but it should be noted here. Hatcher and his family are members of the Anglican Church of Canada, which is equivalent to the Episcopal Church in the United States. A group within the church was strongly antinuclear and was trying to push a resolution through the church structure to have it endorse a campaign for the total phaseout of nuclear science and technology. "A number of us in the industry decided we weren't going to sit back and let this happen," Hatcher said. "By the time we got going, these people had a pretty good head start. They had gotten through two or three church committees, so we jumped in and asked to appear before the next committee. For several meetings, two or three of us—I happened to be the leader—were appearing before these committees until it went right to the top committee of the church. I was arguing for the benefits of nuclear science and technology and for what it was doing and how important it was for the future. The other side was arguing that it was dangerous and nobody wanted it and we should throw it out."

Eventually, the church refused to endorse the resolution to phase out nuclear science and technology. Common sense, and Hatcher's team, had prevailed.

Continued

As president and chief executive officer of Atomic Energy of Canada Limited in 1989, Hatcher and a project engineer discuss a company accelerator developed for food irradiation and radiation processing.

The Hatcher clan today: At far right kneeling, Stan holds his grandson Christopher. With him are (top row, l-r) grandson Ben; daughters-in-law Rosemary, Lee, and Kathy; wife Gladys; daughter-in-law Sheri and grandson Austin; son Michael; grandson David; and son David. Seated are son Kevin, grandchildren Ryan and Lindsay, granddaughter Heidi, son Adrian, and granddaughter Stephanie.

The personal side

The Hatchers' four sons have married and started families of their own. Son Adrian is now 40 and is an international marketing manager for a telecommunications company in Canada. Kevin, 38, is chief financial officer for a construction company in southern Ontario. Michael, 36, runs an automotive repair business, of which he is a co-owner along with Stan and Gladys, in southern Ontario. And David, 34, is a doctor, interning as an anesthetist in Kingston, Ontario.

Eight grandchildren, the oldest being 16 and the youngest coming up on two years, are joys in the Hatchers' lives. The grandchildren who are old enough to be away from their parents join the Hatchers on exotic trips around the world. For three of the grandchildren, that meant tours of Japan, China, and Hong Kong. For two others, a journey to Kenya and South Africa for safaris.

Hatcher has always enjoyed the outdoors. "I've always been a person who likes to get out into the bush to get away from everything, to do a bit of fishing," he said. "I used to camp out, but I don't do that so much these days. When the kids were young, we used to always have a camping holiday together. And I used to take the boys on canoe trips, one or two of the boys at a time, just go off and canoe for awhile. I still go down to the local river to canoe with my grandson, so that's of interest."

His one-time passion, flying airplanes, is behind him, and now he likes to putter around making things out of wood, "not cabinets, but rough and ready things," he said. "We live way in the country, on a couple acres of land, and we have a herd of deer that are almost tame that come to be fed every day. And 'coons and possums and squirrels and chipmunks and all kinds of birds. So I've built birdhouses and the like."

He and Gladys also enjoy coming into the city of Toronto for shows and concerts, and for a high-tech hobby he enjoys working with computers.

Nuclear future

As ANS president, Hatcher will continue to promote aspects of the technology such as food irradiation. In January of this year, he made a presentation on behalf of ANS in Washington, D.C., on food irradiation as part of President Clinton's national food safety initiative. "The only things that anybody said were positive things," he said. "So I think we have an opportunity within the next year or two to bring the importance of food irradiation to light."

He'll also continue ANS's support of the medical side of nuclear technology. "We will work closely with the health-care business to make sure that they're supported," he said. "Low-level waste is a particular concern of theirs, and anything we can do to support the waste management initiatives is going to be very important."

He will also try to stimulate new thinking to continue the move toward the next-generation nuclear power reactor designs that will be more cost-effective than what exists today. The word he uses is standardization. "I'm not talking about new technology, but about taking standard water reactor technology and making a competitive product for utilities," he said. "The problem that the industry faces today is that we're not going to build any nuclear power plants until we get the costs down. The fact of the matter is that the competition today is natural gas. Combined-cycle gas turbines produce power far cheaper than any nuclear plant can do it.

"Nobody who has access to pipeline natural gas is going to build a nuclear plant—or coal plant, or oil plant, or a solar plant, or anything other than a gas turbine—unless the price of gas goes up. So that's the competition."

Yet when you look 50 years into the future, he said, you can see that nuclear energy is going to be essential, on a very large scale. "It will be a scale that's going to require massive growth," he said. That's where standardization comes in. "In the future, you're going to require a lot of nuclear power," he said, "and when you build a lot, it's like any other commodity. You can take advantage of factory production, standardization, driving the cost down by sheer volume production."

Other industries, such as aerospace, produce major high-tech products on a mass-production scale. "We need to do the same thing in nuclear power," he said. "Stop building them but manufacture them."

Steps in the right direction are such reactor designs as the Westinghouse AP600 and AECL's Candu 3, he said. "We have to find a way of getting those mass-production designs on to the table, licensed, and ready to be built," he said. "We have got to get the members of ANS and the student members to start some out-of-the-box thinking to reduce cost to get it competitive again, to get back on the agenda of our customers—which are the electricity producers—and get a product that the customers want to buy. I think the whole business has to start with us. We have the ability, we just have to take advantage of the opportunity."—*Rick Michal* NN