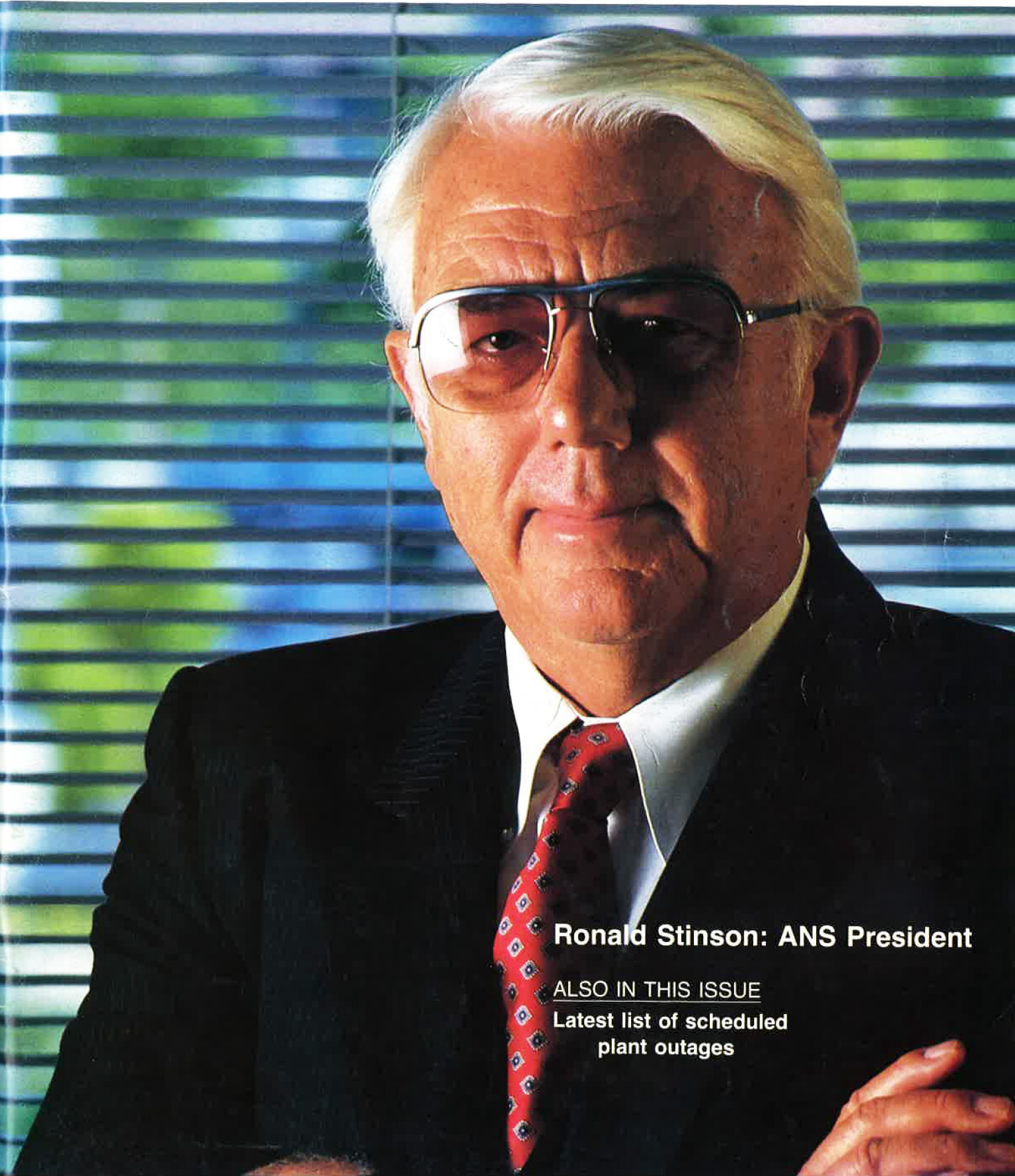


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Ronald Stinson: ANS President

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Stinson: Flexibility in a changing world

Many of the people in the nuclear industry, it seems, started out to do something else, and, through various events, found themselves thrust into the young and constantly changing nuclear field. While the switch from, say, chemical engineer to nuclear engineer or from mechanical engineer to reactor designer might not seem too remarkable, certainly it is significant when one starts out to be a cowboy and ends up a nuclear engineer. Yet just such a change marks the beginning of the noteworthy nuclear career of Ronald C. Stinson, the 1987-88 president of the American Nuclear Society.

Getting started

Ron Stinson was born (April 30, 1931) and raised in Fort Worth, Tex. He attended public schools, and, when it came time for college, enrolled in Texas A&M University, since he really did plan to be a cowboy. He graduated from A&M in 1953 with a degree in range management.

Even cowboys fall in love and marry, however. Ron had met Nancy Jary during their high school years, and they married in September 1952, just before his final year of college.

But before he could go off riding the range, he found out that Uncle Sam had a different idea. The Korean War had just ended, and Stinson went right into the regular Army upon graduation. It was this five-year stint in the Army that proved to be the turning point in his career.

"I ended up going into guided missiles and nuclear weapons school out of the artillery side," Stinson explains, "and that took me into my first introduction into the nuclear business." Stinson served for three years in Darmstadt, West Germany, as well as at Fort Sill, Okla., and at Fort Lewis, Wash.

"From there," Stinson continues, "I decided to go back and change my whole career and life." He went back to Texas

A&M, this time to pursue a different course of study. He went back to undergraduate school, taking the equivalent of a mechanical engineering degree (without machine design) and then, without ever actually getting an undergraduate engineering degree, entered graduate school. "I'm the only guy in the world with a BS in range management and a master's in nuclear engineering," he chuckles.

This period (1958-1961) wasn't an easy one for the Stinsons. Ron was attending school on the GI Bill, which provided \$160 a month. He and Nancy had two children during the army years—Debbie, born in 1953 and Scott, in 1954. During the graduate school years, two more young Stinsons were born: twins Lloyd and Larry in August 1960. Stinson notes the help and encouragement he received at the time from two Texas A&M professors, John Randall and Bob Cochran. Randall, he says, was particularly helpful in getting him graduate assistantships and funding.

Despite the difficulties, good work was being done. During those years, Stinson recalls, "we did some activation analysis work. And recently, I attended a 25-year reunion of the Nuclear Engineering Department, and during a discussion, I learned that the work we did that had cost one private company about \$10,000 in funding had earned some \$40 million in royalties so far."

The GE years

In 1961, after receiving his MS in nuclear engineering, Stinson went to work for the General Electric Company, which at that time was the operating contractor for the production reactors at Hanford, Wash. Stinson worked on the production reactors, primarily D-Reactor, but on the others as well, holding various positions—shift supervisor, plant analyst, training director—for the operations group.

"Hanford was interesting," Stinson says, "because these production reactors had been operating for a number of years, and a lot of the basic operating philosophy on how to minimize cost and maximize production had been well-developed originally from the DuPont philosophies and then improved and enhanced by GE. I think a lot of the things we learned on the production reactors can still be applied to the power-generation reactors today. We're not doing as good a job on the power reactors today in optimizing our generation time and



minimizing our outage time as we were doing 25 years ago on the production reactors at Hanford, in my opinion."

But in 1964, when work on the production reactors was cut back, Stinson transferred to GE's Vallecitos operations, where he was in charge of nuclear safety and licensing. "I was responsible for working on the licensing of the superheat reactor, the GE test reactor, and the VBWR—the Vallecitos boiling water reactor," he explains. "In the process, I managed to make about 20 trips a year to Washington—we were always on a plane. It was a very dynamic period—a lot of things were going on. We were changing things in the reactors, and in those days we didn't have what are now called tech specs. In fact, working with the Atomic Energy Commission, we developed the first set of tech specs for a test reactor." Those working with Stinson during this period included Gene O'Rorke and Larry McEwen, he recalls.

A year later, in late 1965, Stinson was again transferred within the GE family—this time to the San Jose offices to begin work with Commonwealth Edison Company as project engineer on two GE twin-reactor projects: Dresden-2 and -3 and Quad Cities-1 and -2. "By 1965, GE had sold several turnkey projects, including the Comm Ed plants. I worked this time with Fred Hollenback, who was the project manager, and again with Gene O'Rorke."

Stinson recalls the experience he gained on the Comm Ed project: "These plants were the first ones where I really learned on the job about power reactors. I knew about the nuclear side, but had to learn the balance of plant.

"We had excessive expectations of ourselves as far as cost and schedules, and working so hard with such limited re-

sources, we hardly had time to breathe. There just weren't enough hours in the day to do it all. In retrospect, the amount we got accomplished with such limited resources was incredible by today's standards. I think Sargent & Lundy [the architect-engineer on the projects] peaked out with a few hundred engineers on the total design effort, and the construction crews totaled about 2000 or 3000—which we thought horribly large."

Dresden and Quad Cities were essentially identical plants, with some very slight differences. "They were the same size, had the same vessels, used the same fuel," Stinson explains. "But we retrofitted some emergency core-cooling equipment into Dresden that was built into the design for Quad Cities."

Because the Comm Ed reactors were turnkey projects, Stinson says, "it was our job to get a quality product to the customer and yet to minimize the costs to the company."

These years were spirited ones, Stinson recalls. "By that time—1965 to 1967—however, the industry had grown almost too fast, in my opinion, and was just reaching a very serious critical point where we had almost committed to more than we could perform, both in manpower resources and in manufacturing resources.

"I was a young man at the time. At age 34, I had major responsibilities in a very large company, and that's something you don't see today. But because we had to stretch our people so, there were some unusual opportunities. Those were exciting years, but hard on families—they didn't see a lot of us."

Time out at SMUD

In 1968, Stinson left GE after a seven-year career there and went to work for

the Sacramento Municipal Utility District, which was then preparing to build the Rancho Seco nuclear unit. "I was hired both to be lead nuclear engineer and to build up the plant's operating staff. That was a challenging job, since this was a company that had not had any steam plants before, much less nuclear [the utility had depended on hydro up to this point]. So we had to recruit the entire project management team and operating staff from scratch—and train them more or less on line, while the plant was under construction. We went out and recruited very senior experienced people from throughout the turnkey industry and brought in a very competent senior engineering staff, which gave us a leg up, so to speak, over utilities that already had steam plants but that were going into the nuclear business for the first time."

The time was also a challenging one, Stinson says, because the reactor vendor, Babcock & Wilcox, was just getting into the nuclear steam supply system business. "They had sold seven units, and Rancho Seco was the seventh," he says, "but even though we had just hired most of our engineering staff, I think that Duke Power, which had bought the three Oconee units, and SMUD had the most experienced nuclear staffs on board."

After a year and a half at SMUD, Stinson was made manager of power production—both hydro and nuclear.

First concrete on the Rancho Seco plant was in mid-1969. Fuel loading was only 60 months later—in mid-1974.

Working at GA

Stinson was no longer at SMUD by Rancho Seco fuel loading. In 1971, another offer came his way, this time to work for General Atomic Corporation, which was just putting the high-temperature, gas-cooled reactor on the market. "By then," he explains, "Gene O'Rorke had become a group vice president at General Atomic, and it was becoming apparent that the HTGR was getting ready to take off. Gene recruited me to come work on project management for the major projects. At that time, GA had already sold one plant—Fort St. Vrain—and within three years had orders for seven more." (Those plants were Summit-2, for Delmarva Power & Light; Fulton-1 and -2, for Philadelphia Electric Company; Vidal-1 and -2, for Southern California Edison; and Erie-1 and -2, for Ohio Edison Co.)

The scope of the GA projects was considerably wider than that of other NSSS vendors, Stinson says. "For example, GA planned to build the prestressed concrete reactor vessel for the plant, whereas for the other vendors, the containment was the responsibility of the architect-engineer. So, in dollar amounts, the size of the contracts we offered was about five times larger than that of contracts with the other vendors, but the



The early years: left, age two; right, senior year at Texas A&M



Wedding day, September 1952

theory was that it would be cheaper for the utility in the long run. Running the project management function and trying to get it organized for a company that had never done that type of thing before was a real challenge."

Fort St. Vrain was already under construction, and so Stinson, as director of HTGR Product Development, began working on the plants that would follow it, working primarily with Southern California Edison.

But then came the oil embargo of 1973-74. The price of energy skyrocketed, utilities began to cancel and defer nuclear plants, and suddenly the world began to look differently at the energy supply situation. The owners of General Atomic—Royal Dutch Shell and Gulf Oil—began to rethink their investment in the nuclear business. Stinson explains: "Gulf Oil and Royal Dutch Shell, were, I think, more perceptive than most about the long-term implications of the oil embargo, and they decided to force cancellation of the remaining HTGR contracts. Even though some of the utilities—Southern California Edison and Philadelphia Electric, for instance—were still interested in the reactor, the oil companies said no. Royal Dutch Shell in particular pointed out that they had little faith in the ability of the United States to face up to its long-term energy problems. They had only a certain amount of capital, and they decided it would not be in their best interests to continue to plow it into the nuclear area. I think they proved to be very wise in that judgment. There hasn't been a domestic reactor order since."

MAC

Getting out of the near-term commercial nuclear business may have been wise for Royal Dutch Shell and Gulf Oil, but it left Stinson without a job, forced to consider "what I wanted to be when I grew up," as he puts it. The answer seemed to be: Start your own company. "I've always been intrigued with going

into business for myself, and at that time, it became apparent to me that there was a lot of uncertainty in the utility environment. The historic way of doing business with the utilities had been to hire an architect-engineer and have the A/E build you a power plant, almost on a turnkey basis. And, for a lot of reasons, the A/Es were not doing as good a job as they had in the past. Resources were getting scarce, and the bottom line was that plants were costing more and more, but the quality was declining. I felt there was a major opportunity to work with utilities in a whole new era of project management, construction management, and operations management.

"So four colleagues and I started Management Analysis Company; Howard Cook, who was with the Stanford Research Institute; John Jackson, who had worked with me in quality assurance at SMUD and later at GA; Robert Traylor, who had also worked at GA; and Lou Perry, who had done a lot of work at GA in strategic planning and government programs. [Perry later opted to go on his own; the remaining four founders are still at MAC.] It turned out that our timing was very fortuitous, though we didn't know it. We did without salary for a few months, but in the first year—1976—we did a million dollars worth of consulting. The next year we did a million and a half; the next year, three and a half million. Last year—1986—we did \$50 million in business."

Last September, following Stinson's election to vice president/president-elect of ANS, the MAC board of directors named Robert Traylor, one of the founders, as president and chief executive officer, a position previously held by Ron. Today Stinson serves as chairman of the board, freeing him up to devote more time to ANS duties.

The company has a staff of about 450, working on about 160 contracts. "We are probably working with 45 utilities—give or take 5—at any point in time," Stinson

notes. MAC subsidiaries include MAC-TEC, which is limited strictly to government contract work; MAC International, which deals with contracts in foreign countries; and PATSCO, which provides managed technical services for power plant construction and operations.

Most of MAC's work is nuclear-related, with nuclear work representing about 80 percent of MAC revenues today, Stinson says. But the company is moving into other areas. For instance, a recent contract MAC obtained involves the project management, project control systems, and overall general information management systems for a mass rapid transit system. "We are diversifying," Stinson explains. "MAC's nuclear business has changed from about 75 percent construction to 75 percent operations, and so we diversified from construction to operations as well. But the one thing we find is that the nuclear market is still wide open. It's a very dynamic, changing market, but I think in today's world, everything's changing. Everybody's markets are changing, and we just have to pay attention and manage to change with the market."

At home with the Stinsons

Home for the Stinsons is on a hilltop in suburban San Diego, Calif. Ron and Nancy enjoy tennis, skiing, and other outdoor activities. Skiing, especially, has become the family sport.

The young Stinsons are pretty much grown up by now. (Two more children, Susie and Shawn, were born in the early '60s, for a total of six.) Debbie, the oldest, is married, with three children of her own; she now lives in Utah. Scott, a civil engineer, lives in California; he is married with one child. Lloyd and Larry attended a private high school in Vail, Colo., so that they could ski race. Lloyd today works in Utah as a ski instructor, while Larry now works in investment sales and management, also in Utah. Susie also attended the Vail high school to be near skiing, and was graduated this spring from the University of Utah. The youngest, Shawn, attends the University of Utah and works as a ski instructor in the winter. With five of the six children settled in Utah, the Stinsons have bought a condominium there, to be near the children—and the skiing.

And with the children all away from home, the Stinsons are now both able to enjoy the international travel that is part of Ron's MAC job and also part of the duties of an ANS president. Within the past year, Ron has traveled to the Soviet Union as a member of the ANS delegation to meet with the Soviet scientific delegation on issues related to Chernobyl. He and Nancy have also traveled to Mexico and to several countries in the Far East and Europe, where Ron represented ANS in numerous forums. "The esteem and respect that the American



Ron and Nancy on the slopes

Nuclear Society commands around the world means that we have been treated extremely well," Nancy comments. "People have been most generous and gracious. It's really been an experience."

ANS activities

Stinson has been an active member of the American Nuclear Society for more than 20 years, holding various offices and serving as chairman of both the Power and the Reactor Operations Divisions. He has also served on the ANS Board of Directors and on the Executive Committee.

Stinson's main mission as ANS president will be continuing the effort to get the Society more involved in supporting the operating reactors. "Today," he says, "the Society doesn't offer a lot to the people that are in the plants, both the professional people and the reactor operators themselves. And the main reason is that they are tied to that plant and can't get away. I'd like to see us resume the regional workshops, where operators can come in to work on issues of particular interest to them. It would take the cooperation of the utilities to let the people get away. But we need to appeal to the people in the plants, and provide the support they need in this increasingly demanding operating environment."

Another area of concern centers on the nuclear engineering departments at U.S. universities. "There are more and more job opportunities," Stinson says. "The jobs are changing, but the total population of jobs is increasing slightly in the nuclear industry. I see fewer nuclear engineering departments, or else their consolidation into other departments, and I think it's a big mistake. I think commercial nuclear power will come back in the next five to seven years, and at that time, I don't think we're going to have the schools to train the basic nuclear engineering and health physics students. So the Society needs to do whatever it can to

keep those school departments alive. That's an area I'd like to see pursued aggressively."

His experience at the division level, he feels, gives him a special insight into one of the complex issues that ANS is facing today—that of one versus two national meetings per year. "I think the economics, the governance of the Society dictates that we keep the two meetings per year," he says. "I certainly understand the local sections and the divisions and their attitudes on autonomy, but if we're going to stay whole as a Society, we're going to have to take some pretty firm positions. Some of the directions that some of the divisions are taking now are very dysfunctional for the Society as a whole. A lot of people would like to see the Society evolve into a confederation of small societies, and I don't think we can afford that because we'll lose what we've got in the long run."

A fourth area of concern is the international arena, Stinson says. "Is the American Nuclear Society a domestic nuclear society or are we an international nuclear society? ANS is looked upon internationally as the premier organization in nuclear science and technology. The Society has sponsored or cosponsored many international conferences to foster the exchange of information and ideas. One example is the Pacific Basin Nuclear Conference (PBNC) and the Pacific Basin Coordinating Council, which was developed out of the PBNC. We must sit down and make some long-term policy decisions about where we're headed internationally. Chernobyl certainly demonstrated that accidents know no national boundaries."

But ANS must keep a strong national presence as well, Stinson feels. "I think

the Society needs to continue with peer reviews and approvals on topics of national interest—for instance, on the source term and accident analysis. The Society should take positions on Nuclear Regulatory Commission studies in a timely manner. We need to take a lead in these areas."

As noted earlier, Stinson believes nuclear power will be back in the next five to seven years as an option for new power generation. He is concerned about the nation's growing dependence on imported oil, and notes, "The memory of the last oil embargo may have faded from our minds, but the threat is still there and still very real. The present glut and price collapse have already set the stage for the next crisis. Low oil prices have forced most alternative energy sources out of business, and the price crash has significantly reduced the non-OPEC supply. Market control will return to OPEC, probably within the next five years, and we will find ourselves in the same unenviable position of having our economy held hostage by the oil cartel if we continue to rely on oil. However, as an industry working with policy-makers, we must do everything we can to make nuclear power a competitive economic option."

"Coal and nuclear are clearly the long-term alternatives. In my opinion, nuclear power must continue to provide an essential alternative building block to energy independence."

The nuclear industry is changing, and the American Nuclear Society is changing along with it. Ron Stinson is used to adjusting to changes, to taking advantage of the opportunities they present. His year at the helm should steer the Society along in just the right direction.—Nancy Zacha Godlewski



The Stinson children and grandchildren last Christmas: in front, left, grandson Ryan; first row (left to right), grandson Colin (partially hidden), Susie, Lloyd, Larry, and Shawn; back row, Scott, Debbie, granddaughter Kim