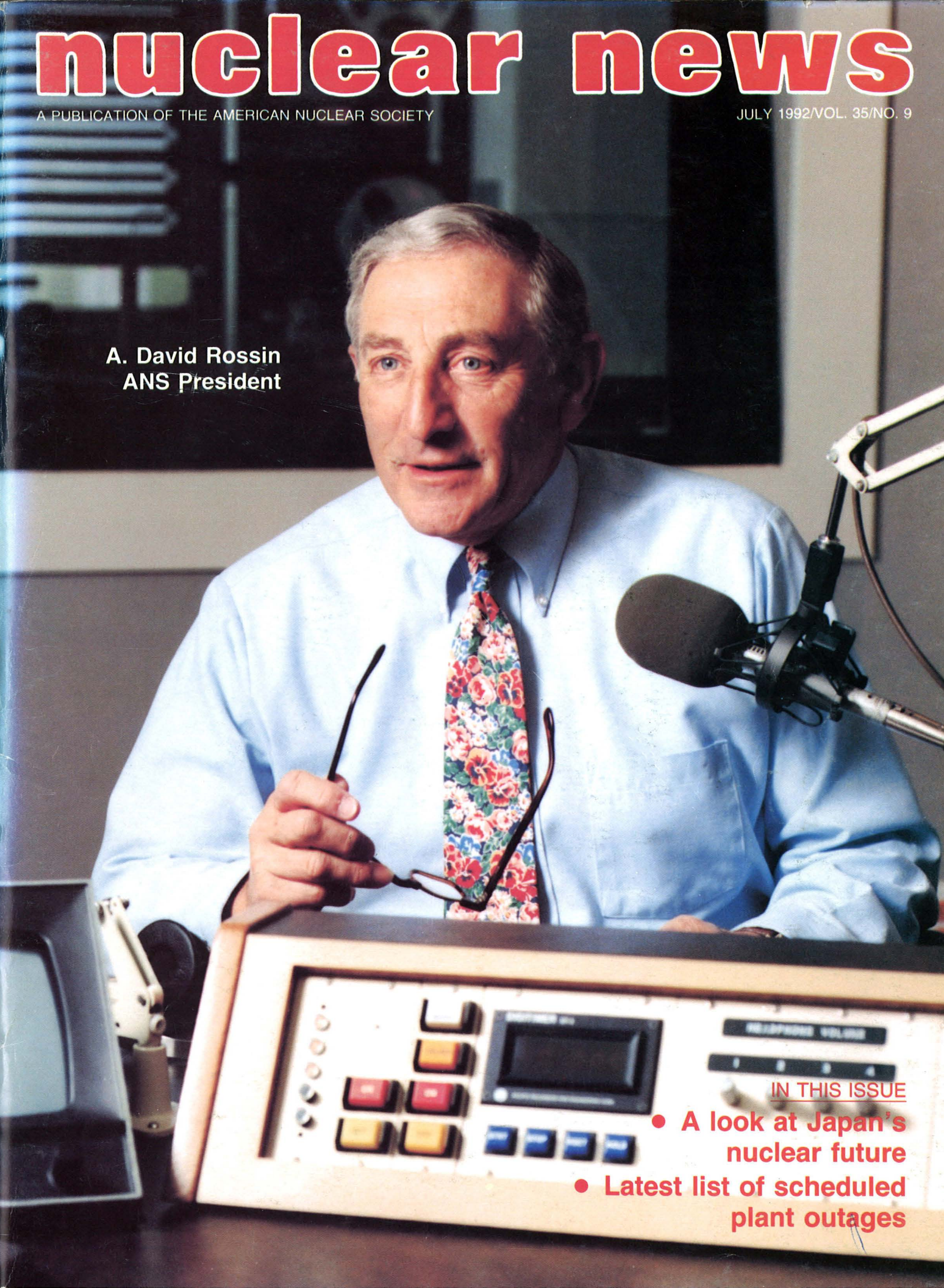
nuclear news

A PUBLICATION OF THE AMERICAN NUCLEAR SOCIETY

JULY 1992/VOL. 35/NO. 9



A. David Rossin
ANS President

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Rossin: Pushing for nuclear understanding

You could spend a lot of time and do a lot of searching, but it would be hard to come up with someone who has been more dedicated to the nuclear industry and to the American Nuclear Society than A. David Rossin, the 1992–93 ANS President. A charter member of the Society, Rossin has served on the Board of Directors and Executive Committee, and has chaired the Finance and Public Policy Committees and the Chicago Local Section. He has appeared in public forums hundreds of times, speaking about the importance and necessity of electricity and nuclear energy in our lives, debating adversaries, and explaining both the technology and the issues in terms that people can understand. (On their first date, he and his future wife, Sandy, went to an ANS Local Section Meeting; she married him anyway.)

Rossin's commitment to the nuclear industry is total, and he's looking to ANS members—all 16 000 of them—to help him spread the word about nuclear energy. "My biggest concern is that the technology is good, it's important, it's needed, and it's environmentally sound, but because we don't have enough public understanding, we have to battle for political support. Right now, many of our politicians understand how important the various nuclear issues are, but some have simply told me that unless the future of the country is at stake, it is politically difficult for them to vote in favor of nuclear power.

"It's always an uphill battle," he concedes. "But that's one of the reasons it's so important today. We have to write letters to the editor and letters to our Congressmen. We have to speak out, saying, 'Look, I understand this technology, and here are the facts.'"

Rossin speaks from experience. He has personally debated noted antinuclear activists Ralph Nader (three times) and Barry Commoner. He has appeared on most major television and radio talk shows. He is personally and professionally dedicated to getting the nuclear mes-

sage before the public. "We haven't told our story well," he notes. "And our adversaries' stories are more exciting, more sensational, and more emotional, getting attention even if the facts aren't right."

All ANS members, Rossin notes, regard their professional work as a major commitment. "That brings up the question of what professional society involvement means," he says. "I think it should afford an individual opportunities to grow in his or her career and in the profession. Growth and improvement take place with communication—communicating with your peers, understanding and learning from others, learning from others' accomplishments and others' mistakes. Without question, that is a major reason for being involved with a professional society. But with the involvement in a professional society comes an obligation to work for that society—to get involved in governance, to work at the local section level, and to work at the division level."

But another commitment, he says, must be to support the technology in public forums. "If you are getting something from your job, if you are getting something from ANS, then it's your job to go out and communicate. Members of the nuclear industry are often accused of being tools of the industry and therefore not to be trusted. But I like to look at things another way. We've got the training; we've got the education, the knowledge, and the experience. That's why we're employed. Our adversaries aren't employed—at least not employed to achieve reactor safety, or to solve waste management problems.

"ANS is made up of people with a lot of responsibilities. We are supposed to provide accurate and top-quality information to our employers—that's our job. But it takes an additional step to go out and communicate that information to the general public. I think some ANS members are concerned that if we are not careful, we will get the image of being advocates and could lose our objectivity and our credibility. But I think that is a tactic promoted by our adversaries, who will always try to undermine our credibility. If you are doing an honest job, and have high-quality information, then disseminating that information may be advocacy, but it's not blind advocacy; it is based on knowledge and understanding.

"One of the dilemmas that we have is that ANS has become more oriented toward nuclear power relative to the other issues of nuclear technology: radioisotopes, medicine, industrial uses of radiation, and radiation for diagnostics and quality control. Some may feel that the credibility of ANS is challenged because we focus on the power industry too much. But in my view, the credibility problem can only be dealt with by doing the best job you can with quality research and effective communication. We can't run away from the problems of public perception of nuclear power. I would like to see more breadth in ANS activities in the non-power-related areas, but not at the expense of doing our jobs in the public understanding of nuclear power."

Rossin's dedication to the Society and to the industry extend over several decades. His interest in science and technology began early. "I got into science because I liked it; I got into engineering because I liked to be involved with things that worked, and I thought that is where I would be the happiest." As we look over his life, we will see that he chose wisely.

Early years

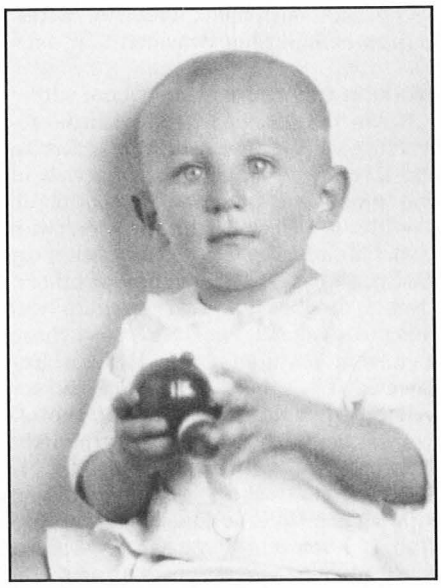
Rossin was born May 5, 1931, in Cleveland, Ohio. His parents, Maury and Freda Rossin, were both born in Chicago. His mother was an artist and had a scholarship to the Chicago Art Institute, but had to give it up to raise her younger brothers and sisters after her mother fell ill. His father worked his way through college—spending one year at Notre Dame (his chemistry professor was Knute Rockne) and finishing at Purdue with an engineering degree.

"My parents were married in 1930 and my father got a job with Westinghouse in Cleveland. It was the bottom of the depression, and he was lucky to get a job. And in about 1934, he went to work for Picker X-Ray Company, which made X-ray machines and fluoroscopes. So as I grew up, I got to know a little about radiation, and I got to know a little bit about manufacturing through what he was doing. He was always in the industrial engineering side of it—cost control—and ended up being the treasurer of the company. I worked there for three summers while I was in college and saw what it was like to build things and to test things. I also learned a good bit about the business, and I think that also added to my interest in both radiation and materials."

He attended elementary and high schools in Cleveland Heights, and then chose Cornell University for its engineering physics program. "It was a five-year program," Rossin remembers, "and we were worried about the cost, but it worked out. There were maybe 23 or 24 of us engineering physics students out of an engineering school of 1400, and I found myself competing against a lot of geniuses. One of the joys of the program was that we were allowed to take more electives than other engineers, so I got to take courses in finance and things like that.

"I remember one professor that I loved was Henry Sack. His field was solid-state physics, and he gave a wonderful course. One of the things I liked about him was that every time he gave the course, he tried different formats. With our class, he gave us an oral exam—a one-hour exam in his small, crowded office. He would sit in his chair and you would stand at the blackboard. He would let you talk until you dug a deep enough hole, and then he would ask you questions and pile the dirt in over you. I remember sitting on a bench in the hall and watching one of my classmates come out with beads of sweat and a very unhappy look on his face. When I finished my exam, I knew why. Sack said: 'Vell, Mr. Rossin, you have done zee homework, so you vill pass zee course. But ziss has not been a famous examination!'"

Rossin received a bachelor's degree in engineering physics from Cornell in 1954, but what the program really did was prepare people for graduate school, he notes, adding, "I had no intention of going to graduate school until I went to a seminar given by Professor Manson Benedict my last year at Cornell. I was so impressed that I talked with him afterwards, and he told me about his program



Rossin in his early years

at the Massachusetts Institute of Technology. I ended up going there for my master's degree. In fact, I started at MIT the morning after I graduated. After graduation, my parents got in their car and drove back to Cleveland, and I drove to Cambridge and started at MIT.

"The MIT program had been in business for several years, but before our class, the only people who had taken it were Navy guys. When I went there, it was the first year there was enough declassified information to really give open courses. Ray Murray had started his program at North Carolina, and Warren Witzig's program at Penn State had just started. MIT had a small head start on them because of the Navy students, but there was no open literature. The textbook was mimeographed, and those pages ultimately became the book that Benedict and Professor Thomas Pigford published on the nuclear fuel cycle."

Rossin completed the work at MIT for a master's degree in nuclear engineering in 12 months. He explains: "First, I took two courses in the first part of summer school. Then I went to Oak Ridge for five months at the MIT Engineering Practice School. That was a real opportunity, because we got a chance to work on projects at the laboratory—the same projects that the staff were working on—and to meet people at the lab." One of the projects he worked on involved figuring out a loading pattern for the X-10 reactor to maximize the production of phosphorous-32, a radioisotope that is used for medical purposes. "We loaded sulfur capsules in the reactor and out came sulfur with a little bit of phosphorous-32 in it. We figured out the considerations for designing a loading pattern, and developed a nomogram for it. Nobody has used nomograms for years, but that was a graphical way of making decisions about how much time you should leave the sulfur capsules in the reactor.

A member of the Cornell baseball team

We were encouraged to prepare an article on the topic, so we submitted it to a magazine called *Nucleonics,* and that became my first published paper.

"I particularly remember Murray Rosenthal, who is Associate Laboratory Director there now," Rossin continues, "and, of course, Alvin Weinberg [former Oak Ridge lab director]. One of the most exciting things about the MIT school was that we were able to go to laboratory seminars and watch Alvin Weinberg in action, because he would always sit in the front row, he would always listen, and he would ask the sharpest questions—not vicious questions, but questions that clearly demonstrated the depth and the insight that he had."

While at Oak Ridge, Rossin heard about a new society being formed for people in the nuclear field. "One day Jimmy Lane told my project partner and me about this new organization called the American Nuclear Society. He had applications for membership, and while they didn't have student memberships yet, the fee wasn't very much, and Lane strongly urged that we join, so we did. That's how I became a charter member of ANS. And the next summer, after I graduated from MIT, I was able to attend the first meeting of the Society at Penn State. Warren Witzig was there, and I also met Dr. Steven Lawroski, the head of the Chemical Engineering Division at Argonne National Laboratory, little knowing that I would work for him a number of years later. It was just a very exciting time."

After the five months at the practice school, it was back to MIT for more coursework. "I took Benedict's course on the fuel cycle, and also got acquainted with Thomas Pigford," Rossin says. "But the most impressive course was one in radiation measurements and instrumentation; the professor was Robley Evans, a very famous physicist who even then was well known around the world. And the two laboratory assistants in that class who graded our papers were Norm Rasmussen and Gordon Brownell."

Working at Argonne

It was the spring of 1955 when he received his degree from MIT, and Rossin had several opportunities to interview at that time. One program he considered was the nuclear aircraft project, with work in progress in Idaho, at Fort Worth, and at Oak Ridge, among others. "But I didn't think that program was going to go ahead," he notes, "so I chose to take a position in the Reactor Engineering Division at Argonne. Professor Benedict thought that was a good choice, so I was confident I was making the right decision."

At Argonne, where he began working with such people as David Okrent and Walt Loewenstein (1989–90 ANS president), Rossin was assigned to work on shielding calculations for the Experimental Boiling Water Reactor, which was under construction at the time, and worked on shielding experiments in general.

Computers were just beginning to be used to make calculations for reactor designs, he recalls. Two computers were primarily being used for these purposes: a computer called George that had been developed by the Argonne Applied Mathematics Division, and a Univac at New York University (with those using the Univac flying back and forth to New York a lot).

"We had learned a way of doing reactor physics called two-group calculations," Rossin says. "You had fast neutrons and thermal neutrons, and you could do the equations on paper with the help of a desk calculator. But a number of people were working on multigroup theory; this involved dividing the neutron spectrum into different groups with different energies. This was the forefront of the field, but we were now at the point where we were doing things that were almost prohibitive to do on paper or with a desk calculator. We had to find ways to solve numerical equations over and over again as we got closer to the right answer—and, of course, that is what computers are for, to crunch a lot of numbers. This was really the era where reactor physics became a much more complex science, but the computer made it possible to do a lot of things we couldn't do before."

Multigroup theory calculations for the Experimental Breeder Reactor II led him into the area of pressure vessel safety and radiation embrittlement studies—an area to which he has since devoted much of his career. Between 1959 and 1967, most of his work at Argonne focused on radiation damage to reactor pressure vessels. During this time, he transferred from the Reactor Engineering Division to the Metallurgy Division at Argonne, and worked to develop a model for predicting neutron effects in a pressure vessel. "The one thing my experiments verified was that there wasn't something called a 'neutron spectrum effect,'" he explains. "I had never even used that term, but others had. If you don't know what the neutron spectrum is, you can't understand what you're doing. And the experiments can't be used for any useful results unless you understand the difference in the neutron spectrum from one place to another." His interest in embrittlement led to his PhD work in metallurgy.

Back to school

During his first year at Argonne, Rossin shared an apartment with Loewenstein; Bob Avery lived next door. "We'd have dinner and talk shop a lot of the time when we weren't talking baseball or politics. I think that was a rare thing. We were working in the same field, and we

really did have a lot to talk about. It was a good experience for me, because I was the youngest of the three."

He also decided the time was right to work on his Master's in Business Administration at Northwestern University at night. "But commuting was difficult in those days because the Eisenhower Expressway had not been built yet, and so during many quarters I took only one course. It dragged out for a pretty long time." He received the MBA degree in 1963.

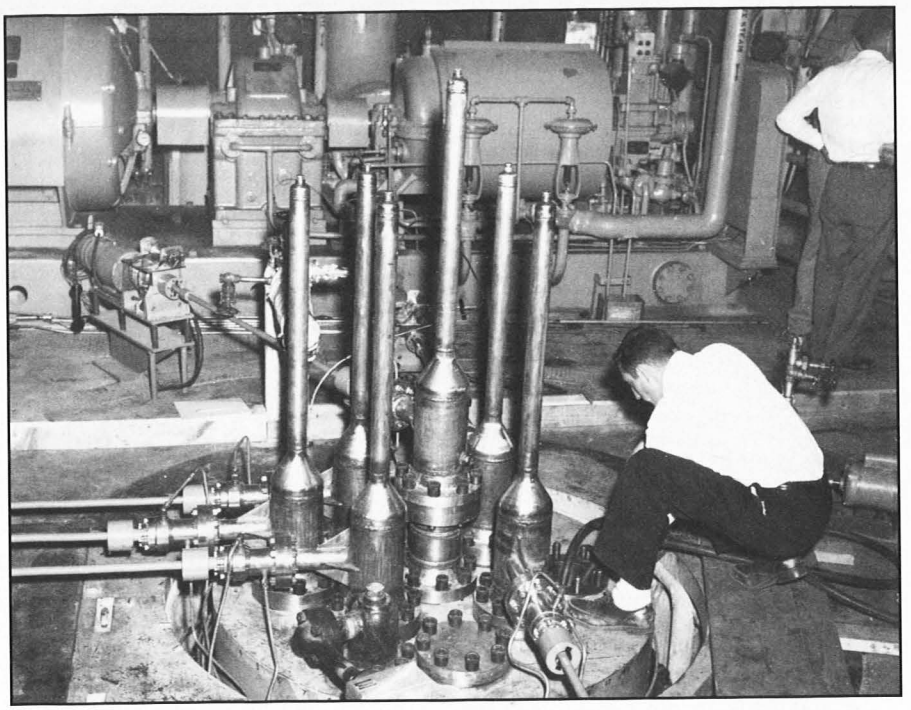
In 1964–66, work toward a doctorate was coordinated between Argonne and Case Institute of Technology in Cleveland. Rossin did his coursework at Case ("It gave me the opportunity to spend more time with my parents," he notes. "I had been away from home since 1949, and we got to know each other again."), but did his experiments for his thesis at Argonne. His thesis studied hydrogen embrittlement in irradiated reactor pressure vessel steel. His conclusions were negative, he said, stating that hydrogen embrittlement would not be significant in reactor situations. He commented on this to his thesis adviser, who replied that if schools gave PhDs only for positive results, there would be a real shortage of professors. He received his PhD in metallurgy in 1966.

There was another change in his life at this time. On February 29, 1964 (Leap Year Day), the *Chicago Tribune* had published an article on the 29 most eligible bachelors in the Chicago area; Rossin had made the list. This eligibility would soon run out, however. While studying at Case, he met Sandy Howells, who was on the teaching faculty at St. Luke's School of Nursing in Cleveland. They became engaged the night he completed his thesis defense, were married on July 16, 1966, and a few weeks later combined an international solid-state physics conference in Cairo with a honeymoon trip that took them to Europe, Egypt, and South Africa.

Moving ahead

Public policy issues had always been an interest, and shortly after he returned from Africa, Rossin learned of a new institute, the Adlai Stevenson Institute of International Affairs, being opened near the University of Chicago. Intrigued, he contacted the director, who put him in touch with a doctor who was concerned about the scientific and medical brain drain, mostly from developing countries to the United States. He took a fellowship from the Stevenson Institute to do a study and book on the problem, but the fellowship ran out before the book was completed, and a newly passed Immigration Act embodied many of the reforms promoted by the book. "The book became out of date overnight," Rossin comments.

So, he went back to Argonne, accepting a position on the staff of Steve Lawroski, the associate lab director. Rossin's job was to coordinate the budget through all the divisions, working with Len Koch, Bob Avery, Milt Levenson (1983–84 ANS President), and others. "Now I had the opportunity to look at the whole program and work with the divisions on the budget presentations, communicating what was going on between the lab and Washington," Rossin explains. "Milt Shaw headed the reactor program in Washington, and we found ourselves fighting lots of battles. Accomplishments were slowing down, and the battles were getting more and more high-pitched."



Connecting control rod drives on the top of the ALPR (SL-1) (1958)

The technical side of lab work still beckoned, however, and Rossin eventually transferred to Argonne's Environmental Division. There, he worked in such areas as air pollution, cooling water impact, and land reclamation for strip mines in downstate Illinois. "We were using some of the models that were similar to reactor physics codes," he notes. He stayed at Argonne into the early 1970s.

But after some 15 years at Argonne, he felt it was time for a change. He considered several options, then decided to go to work for Commonwealth Edison Company in Chicago, as assistant director of environmental affairs. This job covered such issues as air pollution from coal plants, thermal effects from all kinds of plants, and the search for future sites for plants ("none of which we ever used," he adds).

Then he transferred to the Station Nuclear Engineering Department, eventually serving as chief scientist under Cordell Reed. Appointed to head the utility's Nuclear Waste Task Force in the mid-1970s, one of his primary assignments was to devise a program to ensure that Comm Ed had spent-fuel storage capacity through 1995. "We knew that the federal government probably was not going to be able to meet its commitments as far as high-level waste and spent-fuel storage were concerned. Our plants were originally designed for just one or two years of spent-fuel storage. We figured in 1975 that if we had a program that would take us through 1995, we would be home free, because by that time we would be recycling mixed-oxide fuels, we'd have breeder reactors in the design stage—and maybe even under construction—and an ultimate waste disposal facility would be in operation. So we developed a plan that got us well past 1995, and actually up to about 2002."

But soon outside events changed the focus of the nuclear industry in the United States. In April 1977, President Jimmy Carter stopped all work on reprocessing. Work on the breeder was downgraded, and nuclear power was labeled "the energy source of last resort." "Everything changed," Rossin notes, "and changed dramatically. The appointments at the Nuclear Regulatory Commission were negative, the entire atmosphere for nuclear went negative, and a lot of plants were canceled. Comm Ed ordered the Carroll County nuclear plant in 1978, and it was years before they finally canceled it, but it was becoming obvious that immediate expansion for nuclear power was not in the cards."

Rossin became so concerned about the policy directions of the Carter years that he began to write a book on the subject—working with Ed Zebroski, who was at the Electric Power Research Institute (EPRI). Their work focused on Car-

ter's antinuclear decisions, covering the events that led to the decisions and their implications for society. "By early 1979, we had a three-ring binder filled with typewritten pages, covering about three-fourths of what we envisioned the book was to be," Rossin recalls. "We decided that we needed to spend a couple of days together working on it to see where it was going—to see how near we were to finishing it. I had a meeting at EPRI at the end of March—beginning on a Monday—and I agreed to fly out on Friday so that Ed and I could lock ourselves in a room in his house and work on nothing but this book all day Saturday and Sunday. Well, the Wednesday before that Friday was the Three Mile Island accident, and neither Ed nor I have looked at the book since." Rossin has, however, begun to revisit the subject. "Our old draft has been lost, but I'm making contacts now and drafting material to begin the book again."

The effects of TMI

"From the moment we heard the news of the accident at Three Mile Island, nothing was the same again," Rossin reflects. "A couple of people from Comm Ed spent most of the next six months at TMI, Cordell had his hands full with the existing plants, and I inherited the role of nuclear spokesman for Comm Ed—and for other segments of the industry as well."

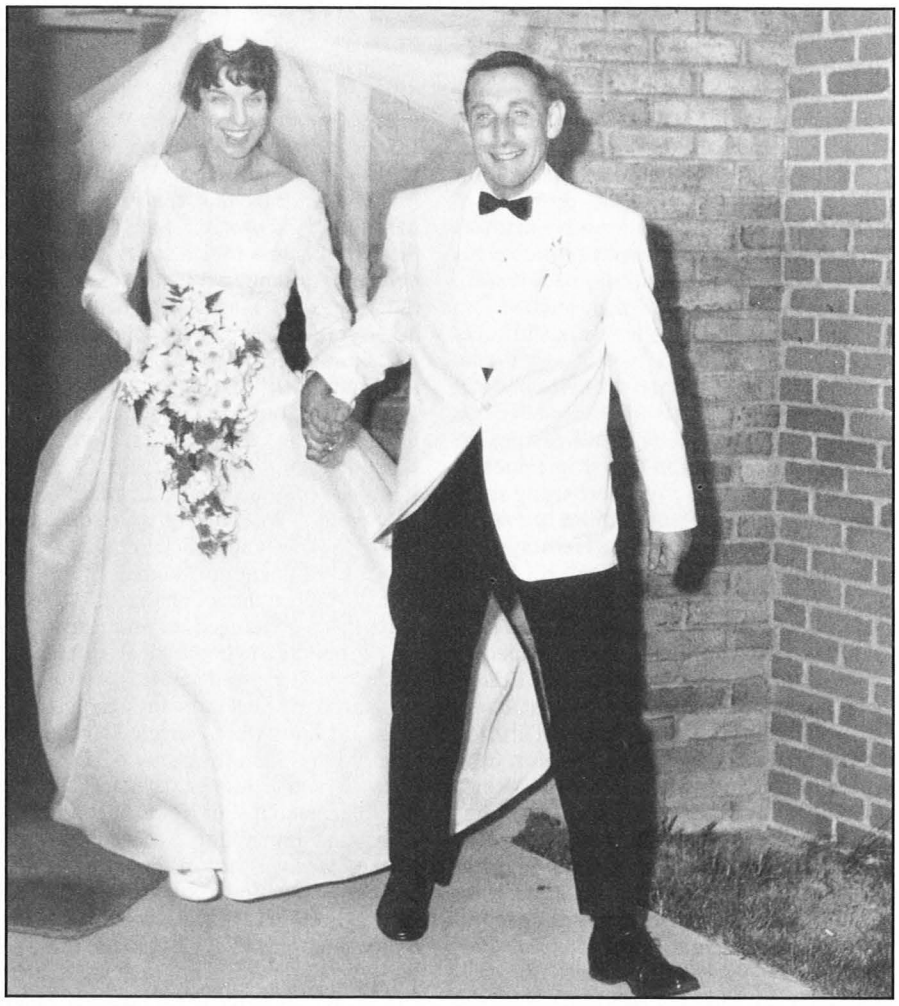
Rossin had been doing a lot of public outreach work even before he left Argonne, averaging, he says, some three or four speaking engagements a month in his last few years at the lab, making presentations before service groups and clubs, church groups, and professional societies. At Comm Ed, he did a lot of work with the utility's speakers task force, and made several television and radio appearances because nuclear power was a subject of continuing interest to Chicago media. But after TMI, public and media outreach received a much higher priority, and he spoke on so many early-morning and late-night television talk shows that his wife, Sandy, began to refer to him as "not-quite-ready-for-prime-time Dave."

Immediately after the accident, he taped a segment for the "Today" show, and spent a lot of time with newspaper reporters and local television reporters, trying to provide information. "We were able to talk to people directly at the plant, we were able to talk to people at the Nuclear Regulatory Commission, and we provided the best information *we* had—we didn't hold anything back," he notes. "But we were appalled at the hysteria about the hydrogen bubble at the time, which the NRC later admitted was entirely irrational. You always have a hydrogen bubble in pressurized water reactors, and there was no possible way that it could have exploded. And we were concerned that even after we explained this to the NRC, they did not immediately go to the media and say that there was no danger. Instead, they let public hysteria on this run for a number of days. And I think this, more than any other single episode, has convinced me that scientists and engineers who understand problems of safety and the environment have to do their part to explain things to the public. If we had done a better job of explaining at the time, maybe some of the unfortunate policy decisions made after that would not have been made."

In the wake of TMI, the nuclear industry took action. The Institute of Nuclear Power Operations (INPO) was formed to analyze plant operations, and EPRI created the Nuclear Safety Analysis Center (NSAC). In 1981, Ed Zebroski moved from being director of NSAC to become vice president for engineering at INPO. Rossin had served on the NSAC advisory committee and was offered the job of director. He agreed to try the position for a year. "We came out to California, rented Ed's house for a year, and I got his office, his secretary, and his cat." After the year was up, he decided to stay, and purchased a home in Los Altos Hills.

Rossin served at NSAC from 1981 to the middle of 1986. "A lot of the early NSAC work was transferred to INPO," he explains. "Ed had developed what was originally called 'Nuclear Notepad' and later came to be called 'Nuclear Network.' The screening of significant events was already in transition when I arrived. So I knew NSAC was going to be a different organization under me from the one that had been there a year before. But I think the in-depth investigation of accidents and trends at plants was very important, and during the years I was with NSAC we published close to 100 reports. And we made some substantial contributions to increased safety and reliability. We developed some good mechanisms for information exchange with the four owners groups that had been established. One of our most important study areas was the whole issue of station blackout, and how a plant would respond over a period of time if it lost both onsite and offsite power. I think NSAC made substantial contributions in that area, many continuing after I left."

During this time—in 1982—Rossin received the Electric Industry Man of the Year Award. His citation recognized his "untiring support of a balanced national energy policy, with expanded reliance on



Wedding Day—July 16, 1966

nuclear power . . . his countless appearances before public forums where he effectively provided insight, reason and wit to depict the safety and economy of nuclear power . . . and [his] selfless dedication to the cause of improved public understanding of complex energy issues."

DOE—and beyond

According to Rossin, the time spent on discussions and negotiations about taking the position of assistant secretary for nuclear energy at the Department of Energy exceeded his time in that office. "I was first approached about the position of assistant secretary at the beginning of 1985. I went to Washington and was interviewed, but after those discussions, I felt that the job was too ill-defined, and the relationship that I would have with Secretary John Herrington was unclear. The whole process did not make me feel that I really wanted to work for the government at the time, so I turned it down before a firm offer was made." Time went by, an appointment was announced, but that individual withdrew, and more time went by.

In September 1985, the DOE contacted Rossin again. "This time, I found a different atmosphere there. I thought my interviews were much more thorough, and at that point I became interested in accepting the job. In December, I was notified that I had been selected but that I wasn't to tell anyone. And just before Christmas, I was pulled from an EPRI advisory committee meeting by a call from the White House. I sat in a phone booth for 20 minutes—on an open phone line—waiting for the Director of White House Personnel to get on the phone. He had been with President Reagan getting a number of candidates approved, and mine was the last the President signed off on before he went to Walter Reed Hospital to have his polyps removed. Again, I couldn't tell anyone, because it's not supposed to be revealed until a senate committee announces it and schedules a hearing. So we sat on the story for another six weeks until finally it was all over Washington."

He commuted from California to Washington for a number of months, preparing for hearings, getting briefed on the various programs, and learning budget information. During that time, he still officially worked for EPRI, and did EPRI business in Washington when he wasn't at briefings. The hearings were scheduled for the spring, but the final senate vote was held up by one senator's objections to some State Department appointments. It was August 18, 1986, before Rossin was confirmed.

In the middle of it all came the Chernobyl accident. "The atmosphere for nuclear power in Washington wasn't all that favorable to begin with, and Chernobyl just made it a lot worse. One week my plans were to leave California Monday noon and go to Washington for meetings later in the week. That Monday morning the news about Chernobyl arrived. All of us at EPRI found ourselves spread very thin, trying to respond to a lot of inquiries. I agreed to do an interview at CNN in San Francisco and then go directly to the airport to catch my plane. When I arrived at the DOE the next morning, they were really very upset that I had been on CNN News the evening before. They were not upset with anything I said; they just wanted to avoid anything that might raise controversy or cause any publicity that might interfere with the rather low-profile hearing process they were hoping for. I should have seen warning signals at that point, but I didn't.

With John Herrington (right), being sworn in as DOE Assistant Secretary for Nuclear Energy. Sandy Rossin in center. (Photo courtesy USDOE)

"It was a debilitating and very expensive process," Rossin analyzes today. "The delay about the confirmation made it impossible to put the house on the market. My younger daughter was totally immersed in high school activities, and we didn't want her to give up her senior year. Finally, Sandy and I decided that we would keep the house, and if and when I was confirmed, I would take an apartment in Washington while she stayed in California during my daughter's senior year—we really didn't see an alternative to that. I found an apartment near DuPont Circle, and didn't need a car because I could take the Metro to work.

"It was a long and difficult year," he continues. "Some of the most ominous and accurate advice I got was from Shelby Brewer, who had previously held that job. I talked with him during my briefings period, and he said, 'Watch out for uranium enrichment.' That was the best advice I ever got, because uranium enrichment turned out to take an amazingly large amount of time. During that period the centrifuge program had been shut down, and the laser enrichment program was under tremendous pressure from the Office of Management and Budget. There were proposals to try to recoup billions of dollars from the sales of civilian enrichment services to pay a theoretical 'debt.' I fought that tooth and nail. The issue is still rolling around."

The DOE program that most captured Rossin's interest was the advanced reactor program. "In the first talk I gave to the staff at the Office of Nuclear Energy, I said that I didn't want to hear or see the term 'inherently safe reactor,'" he recalls. "Anything that contains the energy of radiation in fission products is not properly described as inherently safe. We've got engineered safety features, passive safety features, and we can design safety systems that make use of natural forces, but we can't promise an inherently safe reactor, and if we do, we're going to get undermined by it because we know it isn't valid and our adversaries know it too. The response I got was good, and people began avoiding the term. It comes up now and then, but it's usually someone who is not familiar with the technology who uses it."

But his frustrations with the job became overwhelming. "I quickly learned that the Department of Energy had a real reluctance to fight any of the battles I felt ought to be fought—such as Shoreham and Seabrook; such as straightening out the emergency planning battle; such as really taking the nuclear safety and waste issues to the public. They totally clamped down on allowing me to speak out publicly on issues. That convinced me that they weren't really serious about doing some of the things they had promised I could do when I interviewed with them. This led to more and more acrimony between the Secretary and his top staff and me. Finally, in April 1987, the issue came

The Rossins today: Dave, Elizabeth, Laura, and Sandy

to a head, and I basically said that since I couldn't do what I came here to do, let's part amicably. We kept the lid on it for a couple of months, just for appearance's sake. But at the end of June, I left the Department of Energy, after 10½ months on the job. After all, the average tenure for presidential appointees is 18 months, so somebody has to be on that lower side."

Looking back after five years' time, Rossin can now reflect on his DOE experience with candor and insight. "There are some things I thought I could do but didn't do, and there are things I think I should have done that I didn't do. One of the most frustrating was the emergency planning issue. Not long before the end of the second Reagan Administration, Secretary Herrington did allow some work on that issue. They saved Seabrook as a result, but time had run out on Shoreham, and I think the loss of Shoreham was a terrible mistake. I think the loss of Rancho Seco was a terrible mistake, too. I've always been disappointed that Secretary Watkins didn't take an active role in trying to save Rancho Seco. California is going to be wishing it had those 900 megawatts a few years from now when it is running fleets of cars on natural gas and electricity. The price of gas is going to go up, and people are going to wonder why we don't have that nuclear plant."

Since leaving the DOE, Rossin's interests have remained much the same. "I think my hopes since I left DOE were to do interesting consulting work, to do some teaching, and to try to do as much as I could on public understanding and public communication of nuclear energy issues. I've enjoyed consulting work with various universities and national labs. I've enjoyed the teaching, but the time commitment proved to be very difficult at a time when I was trying to build a consulting business. But I think building public understanding of energy issues is one of the most important things this industry needs to focus on."

In private

Today Dave and Sandy Rossin still live in their Los Altos Hills, Calif., home. They have two daughters, Laura (named for Laura Fermi, whom the Rossins met when they lived in Chicago's Hyde Park neighborhood early in their marriage) and Elizabeth. Laura graduated from Cornell in 1989. She is now in the MBA program at Boston College and is getting married July 18. Elizabeth works for IBM in Palo Alto as an assistant to the Director of Political Affairs (she has a degree from the Newhouse School of Public Communication at Syracuse University). Sandy works as a consultant for Hewlett-Packard, and is also acting as Dave's executive assistant during his year as ANS president.

While on their honeymoon trip to South Africa, the Rossins visited some distant relatives in that country and were impressed by a custom one of the families had. They had a tablecloth that all dinner guests at their home signed before they left. The signatures would then be embroidered onto the cloth. Dave says he was so impressed by this custom that he bought Sandy a linen tablecloth for their first wedding anniversary. Since that time, the cloth has been signed by Laura Fermi and countless others. Sandy says she works on embroidering the names when the spirit moves her.

Rossin's one special extracurricular interest has always been baseball. He played in high school, where his team in the sandlot league came in second out of 63, and even went out for college baseball in his first year at Cornell. "It was very exciting to me, because I was small, and even though I wasn't a power threat, at the beginning of the season I was playing center field and batting third in the lineup. I didn't do too badly, but then spring football practice ended, and the real athletes came out for baseball. The guy who beat me out of my job batted .600 for the rest of the year. So that was that."

One of his best memories from his childhood was seeing the end of Joe DiMaggio's hitting streak. "My father took me to the game," he recalls. "We had to rush because we had to get to the rapid transit in Shaker Heights and from there walk down to Cleveland Stadium. Well, everyone in Cleveland had the same idea, and it was a packed house—over 80 000. We sat way, way up at the top of the second deck, far out in right field, but we saw it. I remember that, and I remember Bob Feller's third no-hitter. I've just always loved the game—love to play it, love to watch it, love to listen to it, love to read about it. I'll stop at little league games and watch."

He also plays tennis and golf, and enjoys cold beer and good wine. He jogs around the block a couple times a week, though he quickly points out that he's not in the same league as John Graham, Don Edwards, or the other "real runners."

And he still enjoys experimenting with computers—a fascination stemming from his early Argonne years. "I got a desktop computer the first year that they were available," he notes. "And I tried to get the group at NSAC to start using one more and more. We bought a single computer there and tried to put it in as part of our operation. People began to use it, and to appreciate the importance of short training sessions so people felt more comfortable. But there were people who were able to solve very complex reactor physics problems on the main frame who wouldn't touch a desktop.

"I noticed the same thing in teaching at Berkeley—I had graduate students who could put together a unit process chemical flowsheet on one phase of the nuclear fuel cycle, but not one of them had ever done something using a Lotus 1-2-3 spreadsheet. I bought a laptop and found I used it a lot in the late '80s, but it was heavy, and I found it was too big to pull down comfortably from the overhead bin and set up on a plane. So I've become intrigued with the new palmtop computers, and I also have the little HP95LX. I find it a valuable tool, and am looking into more peripheral hardware and software that makes the palmtop computer more useful. This is something that I enjoy doing, and I've had two articles published on using the palmtop, and am working on another."

A life-long love of science, a fascination with new technology, a dedication to his job and his industry, a commitment to tell the facts about the need for nuclear energy—these are what made Dave Rossin what he is today and what will drive him in the future. These are what will define his year as ANS President.—*Nancy J. Zacha*

Nancy Zacha is the director of public communications at the American Nuclear Society and is an occasional contributor to Nuclear News. □