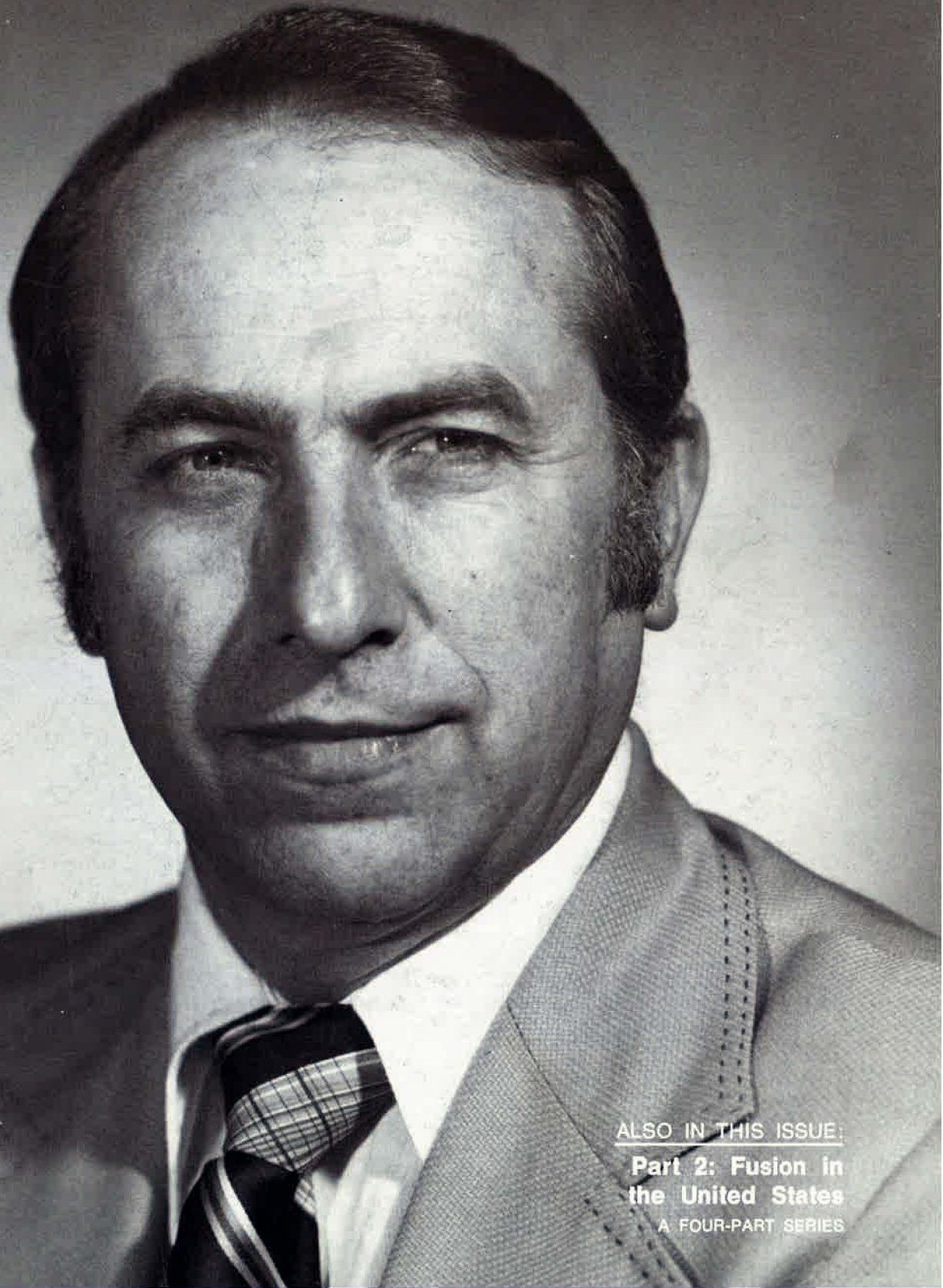


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Harry Lawroski
ANS president



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**Part 2: Fusion in
the United States**

A FOUR-PART SERIES

Harry Lawroski: Getting the message across

"We in the American Nuclear Society will determine our own future," states Harry Lawroski, "and it's high time we started."

"We in ANS cannot furnish the rationale for 'why nuclear,'" Harry continues. "Industry must do that. We're not an economics group." But, he feels, industry and technical groups like ANS must work together to get the facts of nuclear energy across to the public. And getting that message across will be the focus of the coming year, as Lawroski takes office as the

26th president of the American Nuclear Society.

Toward that goal, Harry (whose favorite number is seven, he says) offers the following "seven C's" for ANS members:

- *concern*—for others and for fellow ANS members;
- *conviction*—for our case, for its importance, for its implications;
- *competency*—for doing it right the first time;
- *commitment*—for time and talent;
- *courage*—for taking the necessary action;
- *communications*—for coordinated efforts for the good of all;
- *confidence*—in oneself, in associates, and in the ability of people to make the right decision if given all the facts.

Getting started

Born October 10, 1928, Harry is the fifth and youngest son of Alexander and Nancy Lawroski. (ANS members may be familiar with eldest brother Stephen, charter member of the Society.) Other brothers are John, Bill, and George.

He grew up in Waverly, Pa. (population 250). Says Harry: "It's great growing up on a farm. You work hard, you play hard, and you can enjoy the freedom of your own efforts." He attended the 12-grade Abington Independent School, also known as Waverly High School. He graduated in 1946 at the head of his class (of eleven,

three boys and eight girls—he liked the odds).

Having decided while still in high school upon a career in chemical engineering—that field, says Harry, "probably has the most diversified background in engineering that you can get. You get chemistry, physical chemistry, mechanical engineering, metallurgy, electrical engineering, as well as the chemical engineering itself"—Harry went off to college. He attended East Stroudsburg State Teachers College, East Stroudsburg, Pa., for one year ("at that time," he explains, "Penn State had no freshmen"), then transferred to Pennsylvania State University in University Park, Pa.

"It was not only book learning, but also an education, going to school with the returning veterans," he notes. "They'd just been through a lot, of course, and so they were there to get an education. And they were very competitive."

Despite the competition, however, Harry found time for a few extracurricular activities while at Penn State, most notably playing on the school soccer team. The Penn State team progressed to the national college championships in 1949, playing the University of San Francisco in the finals at St. Louis. The outcome: a tie 2–2 game. Comments Harry: "We wanted to play on, but they didn't."

After receiving his BS in chemical



engineering in 1950, Harry began working full-time for the Petroleum Refining Laboratory at Penn State, while at the same time pursuing his MS and PhD, also in chemical engineering. At the Laboratory, he worked as a research assistant in solvent extraction research (the nature of the work exempting him from the Korean War draft) and as an instructor in petroleum refining. He also worked under a Standard Oil Development Fellowship for a time. He ultimately earned his MS in 1956, and completed his PhD in 1958, receiving the actual degree in early 1959.

Harry set a pattern in those formative years, he feels, that he has carried through his life since then: "Try anything once and be optimistic." He cites an instance in graduate school, when he was taking graduate exams for his PhD. The chemistry examiner mistakenly gave him the qualifying exam in physical chemistry instead of the candidacy exam. Although he had had only undergraduate courses in physical chemistry at that time, he went ahead and took the exam (and, ironically, finished second among the advanced chemistry graduate students taking the test). Three weeks later, he took and passed the candidacy exam. "That was the easy way to take the tests," he says. "It saved a lot of worrying and studying."

Looking back on those years, he reflects: "It is always satisfying, both

technically and personally, to work under people you respect. That started early in my work at the Penn State Petroleum Refining Lab under Dr. Merrill Fenske, a world-renowned chemical engineer. The pattern continued in my later jobs with Argonne, Nuclear Services Corp., and Allied Chemical."

Getting into nuclear

Having completed his PhD, Harry felt it was time for a change. The move from petroleum refining to nuclear was, according to Harry, a logical one. "Even back in the late '50s, it was obvious—at least it was to me—that nuclear was the future source of energy. And, actually, at that time it looked like the fast reactor was going to be the thing, rather than the light-water reactor." He weighed several possible positions, but, wanting to work on the fast reactor as well as wanting to go out West, he decided to go with Argonne National Laboratory at Idaho Falls, Ida., where he was to spend the next 15 years.

"Idaho is a great place to work and live," Harry says. "There are very few places where you can do useful work and at the same time have an exciting vacation skiing, fishing, hunting, and even pursuing the fine arts during the weekend."

On October 28, 1958, Harry began working for ANL. His early months there saw him working in several areas, beginning with the critical facility at

the ZPR-III. From there, he moved to the old Borax-V, doing calculations on natural circulation, and spent a few weeks at the Experimental Breeder Reactor I while it was still operating. His assignment as a supervisor at the Transient Reactor Test Facility (TREAT) was a bit more lasting, and he spent about five years there.

His duties associated with the TREAT reactor were operation of the reactor, evaluation of safety hazards of experiments submitted for irradiation in TREAT, and preliminary analysis of results of experiments in the facility. Such experiments included fast reactor safety experiments with EBR-II and Fermi-type pins, both dry and in stagnant sodium, plus fast photography of dry pins during destruction (with both metal and ceramic fuel); metal-water reaction experiments using metals, oxides, and cermet; fuel irradiations; and experiments on fast reactor elements for the oxide core.

In August 1963, he became technical manager for design and construction of the Zero Power Plutonium Reactor (ZPPR). The ZPPR was the largest critical facility in the world for doing core simulations of 1000-MWe fast breeder reactors and for doing neutron physics measurements on FBR cores. As technical manager, Harry supervised the design of the basic reactor assembly and associated equipment, advised on the operation design



The 1949 Penn State soccer team, with Harry in the front row, far left



Mary Ann and Harry: October 6, 1962

of the conventional portion of the facility, coordinated and prepared preliminary and final safety analysis reports on the design and construction of the facility, and supervised the assembly and final checkout of the reactor. The ZPPR facility was put into operation in April 1969.

Of his experiences at ZPPR, Harry comments, "Plutonium is like many other things. Treat it with respect and knowledge, and it can be an asset."

Harry continued to progress at ANL, next becoming superintendent and associate director of the EBR-II. The EBR-II was originally operated as a demonstration of a liquid-metal fast breeder reactor with an attached fuel cycle. It was later modified to become the prime U.S. fast reactor irradiation facility. During Harry's tenure, irradiation load progressed steadily from a few irradiation subassemblies to as many as 59 experimental subassemblies by mid-1972. As superintendent and associate director, Harry was responsible for all operational planning, modification, normal operation, and maintenance, and he supervised up to 130 people. In addition, he initiated programs to provide increased emphasis to preventative maintenance, operator training, planning, and scheduling. "Those were difficult years," Harry says, "but they were also highly rewarding years, be-

cause we made progress and got things done. That is always satisfying."

By June 1973, Harry was ready to try something new, and, feeling the urge to move into industry, he left Argonne and Idaho Falls to join Nuclear Services Corporation, in Campbell, Calif., as a consultant in environmental services. It was his first experience in consulting, and he enjoyed it, but found he missed the Idaho Falls locale. Thus, when he was offered the position of assistant general manager at Allied Chemical Corporation in Idaho, he accepted quickly. The Idaho operations of Allied Chemical dealt primarily in recovering uranium from navy fuels and research reactors. Harry was put in charge of production activities, as well as research and development, in waste management.

The taste for consulting, however, was a strong one, and in October 1979, Harry decided to combine the best of both worlds: consulting—primarily in the areas of waste management and reactor operations—and Idaho Falls. Consulting, says Harry, is a very rewarding profession. "You work primarily on solutions that are effected fairly quickly. Consulting is progress oriented, and I'm thoroughly enjoying it, particularly the diversity." Among recent assignments have been consulting jobs for the Nuclear Safety Analysis Center, for General Public Utilities, and for the Electric Power Research Institute. "And the best part about consulting," he adds, "is that you can choose your clients."

Service to ANS

Professional societies have always played a major role in Harry's life. While in college, he served as the first chairman of Penn State's student chapter of the American Institute of Chemical Engineers in its charter year (1949), and since has served as vice chairman and chairman of the Nuclear Engineering Division of AIChE, and as vice chairman, secretary, and director of the AIChE's Idaho Section. In addition, he is a Fellow of the American Institute of Chemists and a member of Sigma Xi.

Harry joined ANS in 1959, and was soon very active in the Society. From 1962-67, he held offices of secretary, vice chairman, and chairman of the Eastern Idaho Local Section of ANS, and served on its board of directors. He was chairman of special events at the 1963 National Meeting in Salt Lake City, Utah. In addition, he served as tour chairman of the National Topical Meeting on Remote Handling and Operation in the Fast Reactor Field, held March 1969, at Idaho Falls.

On the national level, he was a member of the Finance Committee, serving as chairman 1971-73, and served on the national Board of Directors for two terms, 1969-72 and 1972-75. His experience on the Finance Committee made him a natural to serve as Society treasurer 1973-75. He was elected a Fellow in 1973. So he brings an extensive background of Society service to his new role as ANS president.



Harry (front row, third from right) at the Atomic Energy Research Institute of the National Academy of Sciences of China during the 1978 ANS trip to China. Also in the photo, left to right, front row: AERI office manager W. S. Wang; ANS executive director Octave J. Du Temple; former ANS president Joseph R. Dietrich; Chih Wang, Oregon State Univ.; Lien Pei-Shen, deputy director, AERI; Wang Chiu-Ying, deputy director, AERI; Wang Peliu, chief interpreter and guide; and Mei Chen-Tsing, interpreter. Back row: Ku Teh-Ming, technical interpreter; Ersel Evans, Westinghouse Hanford; former ANS president William R. Kimel; present ANS vice president/president-elect Corwin Rickard; Paul Evans (son of Ersel Evans); and Lin Chen-Kei, deputy chief engineer, AERI.

Indeed, his outstanding record of service to ANS, plus his obvious professional experience, made him a natural choice when ANS was selecting representatives to go on the historic visit to China in the spring of 1978. The ANS participants in the China visit were chosen on the basis of their association with the Society and on their ability to discuss certain subjects of interest to the Chinese. Harry's area of specialty was waste management. "That trip," says Harry, "was also a most delightful two-week vacation. The scenery was exceptional, and we had two weeks of gourmet Chinese cuisine." Since that time, Harry (and wife Mary Ann) have given more than 30 slide presentations on that trip to various groups, including Rotary (of which Harry has been a member since 1971), secretarial organizations, and the Natural Gas Association.

The Lawroskis at home

The conventional exterior of the Lawroski home, located in a relatively new Idaho Falls subdivision, gives no clue to the oriental world inside, with Chinese screens, porcelain, and black lacquer furniture highlighting the elegant yet comfortable interior. And only very few of the decorations, Mary Ann points out, were obtained during the China trip. "We began collecting shortly after our marriage," she explains, "and have built it up piece by piece since then."

Harry met Mary Ann DeWoody in 1957 at a Penn State University Club "stag and drag" dance when both were in graduate school. Mary Ann, born in Arkansas, had graduated from the University of Arkansas, at Fayetteville, and was studying for her masters in home economics education at Penn State. They went their separate ways for a time, with Harry out in Idaho and Mary Ann still at Penn State, but they kept in touch. After receiving her degree, Mary Ann taught at Penn State, at the University of Minnesota, and in the College of Home Economics at Louisiana State University.

It was 1962 before Harry could "drag her out to Idaho," as he puts it. Comments Mary Ann: "I had to wait and see if he was going to be successful." They were married October 6, 1962. "It was," Harry notes, "economically necessary. My telephone bill was outrageous."

Mary Ann works as Home Economist in Bonneville County for the University of Idaho Cooperative Extension Service. She's had this job for 12 years. During the years in California, she taught at West Valley College in Saratoga, and at San Jose City College and San Jose State University, but happily, when the Lawroskis returned to Idaho,



Harry, Mary Ann, and ENS president Carlo Salvetti, during a recent European trip

Mary Ann found her old position open again. Her specialty is consumer and family economics, and she gives numerous lectures, consultations, and does counseling in this area. Her other areas of interest include nutrition, interior design, and textiles and clothing.

For relaxation, Harry enjoys skiing and bowling—he has over a dozen bowling trophies—and he is a good fisherman, Mary Ann adds.

Goals as ANS president

"International features of ANS are very important," Harry has stated, "but right now, it seems to me, we have such a tremendous problem here in the United States with regard to energy. My goal as ANS president will be to see that nuclear power plays the *appropriate* role in the total energy solution—and that's not necessarily the *major* role. We presently have two alternatives—nuclear and coal—and there should be no competition between the two because we are going to need *all* of the energy that we can produce."

The present need is to get that message across to the public, he feels. "Members of the technical community are terrible in politics," he continues. "They tend to be overly 'truthful,' if you could use such a word. They will put in so many qualifying words—to cover one iota of uncertainty—that the message never gets across. Consequently, the nuclear community is not very good politically, though we do have the smarts technically."

What does this mean for the Society's future? Harry feels that the role for the Society and its members is not really a new one, but rather its tradi-

tional one, with an added emphasis: "We have to make sure that the facts of nuclear safety are given out in a balanced way. We have to have patience in reaction to the emotional, strident media. We must continue to present the factual case, until the emotion wears off, and the brainpower starts taking over.

"We have to get the message out that we have the technology and are demonstrating the technology of reactor safety. We also have to get out the story about the safe disposal of waste. Nuclear waste is the Achilles heel of the nuclear industry. It is absolutely essential that we convince the public that we can handle the waste."

How can we get the message across? According to Harry, by getting involved. By talking to people, to organizations, across all economic and social strata, and across the country. "One of the things I'm trying to get the Public Relations Board (the public relations firm working with ANS) to do is to get us invited to give speeches before all the major conventions of various groups that meet throughout the year—manufacturers, teachers, what have you."

What it all boils down to is this, he states: "Where the American Nuclear Society can do something very constructive is public education, in contrast to what we have been calling public information. I think we have to *educate* the public, so that they will make a wise choice. I firmly believe that, if people are educated, if they are given all the facts, they will make the right energy decisions."—*Nancy Zacha Godlewski*