# nuclear news

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Mel Feldman
ANS president

# Feldman: More than remotely concerned

Mel Feldman changed jobs recently. And happily. He gave up the prestigious title of associate director of Argonne National Laboratory–West to become program manager of engineering systems in the LMFBR Fuel Recycle Program currently under way at Holifield (Oak Ridge) National Laboratory. His new job puts him at the heart of advance work in the fuel cycle that will be crucial to the complete development of the liquid-metal fast breeder reactor. By contrast, Feldman felt he had reached in his former position a point where he was no longer having a significant input in the nuclear field. And so when they asked the question at Oak Ridge, "Why as an associate director would you be interested in another job?" Feldman said his answer was very simple: "I wanted to go to work, and I thought I could make contributions that in my present position I could not make."

Such is the man who has become the 21st president of the American Nuclear Society—worker, activist, long-range planner. And these are roles, by the way, that Feldman has played not only in his work career, but also in his years of service to ANS.* Like James R. Lilienthal, who served as ANS president in 1972-73, Feldman entered the Society via the Hot Laboratory Committee, which was merged with ANS in 1958 as the Hot Laboratory Division, later (1963) to be named the Remote Systems Technology Division. Over the years he has dedicated much of his time to work on the program committees of first the Division and then the Society, and his diligence in these activities undoubtedly has been a key factor in his rise to the presidency.

When you look back into the life story of Mel Feldman, now 49 years old, you see that he wasn't always the soul of social responsibility. The process of growing to maturity was an arduous one, as Feldman tells it, and all in all, his is a very human story.

*Feldman's activities in the ANS Remote Systems Technology Division (and earlier Hot Laboratory Division) include the following service: Publications Committee (1960-61), Program Committee (1962), Program Committee chairman (1963), Executive Committee (1963-65), treasurer (1964), and chairman (1965). He was technical program chairman for two national RSTD topical meetings.

His work with national committees includes: Program Committee member (1964-66, 1968-73); chairman, Program Committee (1968, 1969, 1970); Planning Committee member (1968-69, 1973-75). He was technical program chairman of the 1972 ANS/AIF International Conference, and served as U.S. representative of ANS to the program committee for the European Nuclear Conference held in Paris this April. From 1973 until the present, he has served on the ANS Board of Directors. In 1974 he was elected vice president/president-elect. In 1971, he was promoted to the grade of Fellow.

## Old world and new

Melvin J. Feldman was born on January 6, 1926, in South Bend, Ind., the third of four children born to Benjamin and Fannie (née Glaser) Feldman. His parents were both Jewish and emigrated to the United States in the early part of this century, his mother from Austria and his father from Belo-

Benjamin and Fannie Feldman (about 1945) and their children (1936)—Mel, dressed in white, Bernice, Chester (rear), and Dan

russia. Their respective families settled in South Bend, and this is where they met, married, and raised their family.

Another figure important in the heritage of Mel Feldman was his paternal grandfather, Louis, who was a rabbi. He decided to bring his family of three boys and six daughters out of Belorussia (they lived in a little town near Brest-Litovsk) to prevent the conscription of his sons into the Russian army, where Jews all too often were treated inequitably, being sent in disproportionate numbers to Siberia. And so Louis Feldman came to the United States, and as a rabbi worked in the Chicago stockyards butchering kosher meat. As he earned money, he sent for the children, bringing them over in groups, first the boys and then the girls and their mother. Mel's father, Benjamin, was the oldest of the children and was 14 at the time of his arrival in the States in 1908.

When the process of bringing everyone over was completed, Louis Feldman moved his family to South Bend, where he became chief rabbi, officiating for years at the Williams Street synagogue. Mel remembers his grandfather as the one person in his experience to whom the term *patriarch* most closely applies. The Jewish community relied heavily on his advice and wisdom. Mel says his grandfather used to sit in his living room hearing problems, dispensing advice and judgments, and serving as an arbiter in matters both sacred and profane.

While the elder Feldman was thus seeing to the needs of the community, Benjamin was "the focal point of the family," in Mel's words, serving as a kind of surrogate father to his brothers and sisters. He apparently was a tireless entrepreneur. Among other things, Mel's father was an insurance man, ran a junk yard (or as Mel, speaking as a metallurgist puts it, "a secondary metals firm"), operated an auto agency, and ran a grocery store. About the time Mel was born, Benjamin had built a complex of commercial buildings housing a gasoline station, one of the first A&P supermarkets, and a shoe and dry goods store. He himself operated the latter, which was basically a shoe store with dry goods, and lived with his family in an apartment above the store. It was in this environment that Mel lived and worked during his early years.

Mel at 12: Budding shoe salesman

And work was a good part of young Mel's existence. His father kept the store open from eight in the morning until ten at night six days a week, and on Sundays it was open from nine until noon, after which they would clean the store. It was strictly a family business, and when Mel was as young as 10 years old, he was called upon to go down and mind the store while his father came up to have a bite to eat. As he grew older, he was expected to put more and more time in at the store, and he got to be a very good salesman, but was much more interested in bike riding, girls, and baseball. A running battle raged between himself and his father through his adolescence over whether he should be out playing or working in the store.

Mel was particularly irked over the fact that he was always expected to help while his older brother, Chester—or Ted, as he is called—was never asked to work in the store. Ted was six years older than Mel, was a very serious student, and, importantly, was the first-born male in the family, a position of privilege that was apparently a sore point with the younger brother. At any rate, they had little in common and were not the best of friends as youngsters.

Ted went on to earn a PhD in mathematics at the University of Chicago and is presently an associate editor of *Mathematical Reviews,* published in Ann Arbor, Mich., by the American Mathematical Society.

As it turned out, Mel's IQ was every bit as high as Ted's, but by the time his

parents recognized this, Mel was, as he explains it, "cast in a very different role." It was a role of resistance that expressed itself in many ways but came to a sharp focus on the subject of religion. Mel fought going to Hebrew school when he was in junior high and approaching his bar mitzvah. For one thing, Hebrew school was on the other side of town, where the Jewish population was more concentrated, and therefore in order to attend the school, Mel had to leave the junior high at 3 o'clock instead of 3:30 to catch a bus to the school. He reacted very negatively to being singled out in this manner, and also he resented having to go to another class instead of playing ball after school. It was a point of great contention between Mel and his father, who laid great stress on following the rules of the religion. In this, the elder Feldman was unlike his own father, the rabbi, who was a humanist and what Mel calls a religionist, one who subscribed more to the spirit of the religion. The last year of Mel's preparation for bar mitzvah was "done under the sword," as Mel puts it, and was not done at Hebrew school because he refused to go and instead received instruction from his father.

"My father and I loved each other very much," Mel says, "but we fought like a cat and a dog." Nor did the character of their relationship alter much in later years. As Mel tells it, "The normal time-out in our relationship when we hadn't seen each other for about three months lasted about three minutes. Then we'd start arguing." Still, there was a closeness in their relationship, and the elder Feldman especially wanted Mel to take over the family business—something Mel was to pass up in favor of a career in engineering. His father eventually sold the business when Mel graduated from college and took a job. His father died in 1960 at the age of 66. His mother continues to live in South Bend, having recently given up the apartment above the store to move into a new apartment of her own.

Mel also has a sister, Bernice, to whom he was quite close during his growing-up years. She was 10 years older than he and was something of a second mother to him. A journalist major herself (University of Illinois), she married journalist Bud Lippe, who was very active in the journalism of the unions. He later joined the U.S. State Department and became labor attaché, ending his career not long ago as labor attaché in the London embassy. He is now retired.

Another brother, Dan, six years younger than Mel, is an attorney in Chicago with the firm of Isham, Lincoln and Beale. Because of the disparity in their ages—Dan was only 11 when Mel left home at 17—they were not particularly close as youngsters but have developed a strong bond in later years.

## Answering the call

Young Mel did develop some close relationships, however. A certain Nancy Ann McCarty, in particular, captured his attention during their years together at James Whitcomb Riley High School in South Bend. They met when she was 13 and he was 14, and theirs was to be a long-lasting relationship.

In spite of the demands on his time made by activities such as selling shoes and seeing Nancy, Mel excelled in high school and was able to graduate after his third year by going to summer school. He was then 17 and immediately went to Purdue, got through the first semester, and soon after the beginning of the second semester turned 18 and, much to the horror of his parents, enlisted in the Navy. This was in January 1944. He was inducted into the Navy in March of the same year and served until April 1946.

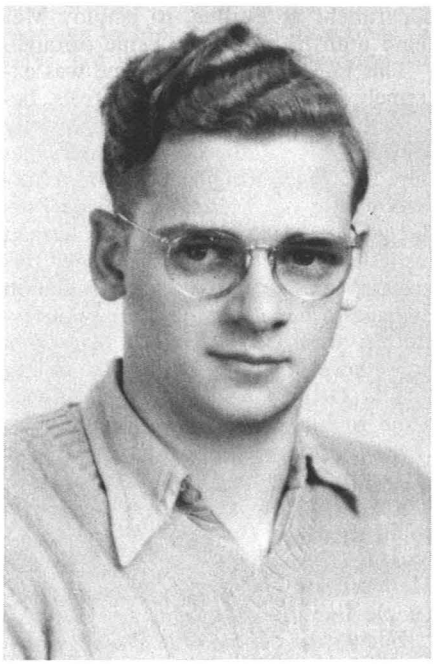
Mel's Navy service was to be a period of initial disappointment, continuing resistance to authority, a lot of fun, and an approach to maturity. The initial disappointment came when he was denied admittance into the Navy's RT (radio technician) program, for which he successfully tested in boot camp. Over his protestations, he was assigned instead to duty as a fireman, destined to spend much of his Navy career below decks in the engine room. Once again he was cast in a role contrary to his own liking, and once again he took on a posture of resistance.

His first duty was on a ship called the USS *Paducah*, a forerunner of the destroyer-escort, operating out of Norfolk, Va. He worked hard, sometimes 12 hours at a stretch, in the boiler room, and when he and his buddies went on leave, their spirits were, to say the least, on the exuberant side. But raising hell and getting in and out of trouble were not without their educational benefit for the young sailor. He got a lot of things out of his system, was introduced to a part of life he had not been exposed to before, and in his day-to-day association with the engine room crew he came away with a respect and affection for the laboring man. This exposure was later to prove invaluable to him in his dealings with craftsmen, laborers, and others involved in his projects.

## A softening influence

A moderating element came into the life of this feisty young man about a year after the beginning of his service in the Navy. Returning home to South Bend one Friday on a five-day leave, Mel visited his family, but spent a good part of his time with Nancy, his high-school sweetheart. As it turned out, the short leave was to constitute a whirlwind courtship. As Mel relates it, "I got home on leave Friday, said to Nancy, 'Let's get married' and—the most surprising thing in the world—she said yes, we were married on Monday, honeymooned on Tuesday, I caught a train for Norfolk on Wednesday, and was AWOL on Thursday!"

If their decision to marry was impetuous, it was also felicitous. Nancy was a perfect complement to Mel's personality, sharing his sense of fun, but



At 17: High school graduate

At 18: Salty tar

being essentially a quiet, unassuming, and loving person, long on patience.

Theirs needed to be a strong union from the outset since they had to face what was then a fairly strong social disapprobation of what was termed a "mixed marriage," Mel being Jewish and Nancy a Methodist of Scotch-English descent. In their own eyes, of course, this has never been a problem, and they have continued a pursuit of religion, finding in Unitarianism something they both can adhere to. Mel, in fact, says that he has learned more about Judaism since becoming a Unitarian than he ever did in his earlier education.

The young newlyweds were separated for a time after Mel rejoined the crew of the *Paducah,* but not long thereafter he was transferred to an air-sea rescue station at Edenton, N.C., where Nancy was able to join him. They remember with some amusement their first home, a small one-room "apartment" on the second floor of a house in Edenton. They recall in particular a pot-bellied stove that Nancy had to learn to bank to keep from freezing on nights when Mel had to stay at the base. But it was home for the young couple, and they weren't much bothered by such inconveniences.

With the end of World War II and Mel's release from the service in April 1946, the young couple returned to South Bend, whereupon Mel tried to return to Purdue. This was to prove difficult because of a severe shortage of family housing at the University. While waiting for an opening to develop, Mel occupied himself with various jobs, including one at the Studebaker plant in South Bend. Also, the first of their five children, David, was born during this period of waiting to return to the University. A break finally came in June 1947, more than a year after he got out of the service, when he was able to use a professor's house at Purdue while the professor was away for the summer. During that summer he got in his basic requirements in college chemistry.

Throughout the summer, of course, Mel and Nancy looked for housing in preparation for the fall semester, but were not having much luck. As summer came to an end, the housing office gave them the bad news: no apartment. The Feldmans were determined to stay, however, and in discussing their problem with friends, they got together with another couple who had been allocated a one-bedroom apartment on GI housing. Using this as a lever, the two couples went to the housing office and asked if they could "tradein" the one-bedroom apartment for a two-bedroom apartment that they would share. The housing office agreed, and the two

With bride Nancy: Whirlwind courtship

couples, each having a baby, moved in together. "We were the first hippies!" Mel says. In spite of the lack of privacy and other problems ("There were diapers everywhere!"), the two families got along fine and lived together for about four months, until Mel and Nancy were able to obtain their own one-bedroom apartment from the housing office. Later, when their second child, Cynthia, was born, they moved into a two-bedroom apartment.

And so with the help of the GI bill, some good luck, plenty of hard work scholastically and otherwise (Mel on Saturdays resumed his shoe-selling specialty, usually outselling the regular salesmen at a shoe store in Lafayette), Mel finished his undergraduate program at Purdue in 1950, obtaining, with honors, a bachelors degree in metallurgical engineering.

## Beginning a career

In January of his senior year, Mel made application for employment at Oak Ridge National Laboratory, which sounded to him like an interesting place where new and different, "far out" work was being done. He knew little about the nuclear field, but thought Oak Ridge would be an adventurous place in which to work, and so applied in writing for an interview.

He didn't hear from Oak Ridge, however, and so when graduation came and it was time to make a decision among his interview opportunities, he chose General Motors at Danville, Ill., where malleable castings were produced for transmission housings. GM made him a job offer, and he accepted, canceling all his other interviews and job offers.

On a return visit, shortly after this initial interview, Mel spent a fateful day. He had been interested in a tract of land on which to put up a prefabricated house, and, in fact, had borrowed $1,000 from his father so that he could purchase the property and the house from a contractor. As he drove to Danville, he came to a Y in the road, one leg leading to the GM plant and the other to the place where he was to buy the house. It was 11 o'clock in the morning, and Mel's mind said, *Go out to the plant first because they'll buy you lunch. Then go buy the house.* And this is what he did. While he was at the plant, he was asked to take a physical, part of which was an eye exam, which was a problem for Mel because without his glasses his vision was very poor. He flunked the physical and was told he couldn't take the job because GM had a safety rule requiring a certain minimum vision, without glasses, that he could not meet.

Mel, of course, was downcast over this—his only consolation being that he had not taken the other leg in the road and committed himself to the purchase of a home in the area. As he drove back to Lafayette, he wondered what to do next, having turned down offers from other companies (among them a job at Westinghouse in its Navy nuclear program). As he drove up to his barracks apartment, Nancy ran down the path and before he could tell her the bad news, she handed him a telegram from Oak Ridge National Laboratory asking him to come in for an interview.

Mel went to Oak Ridge, was interviewed, and was accepted, but there was the problem of security clearance. "We probably can't employ you for three months," he was told. As it turned out, though, the Laboratory arranged, under a contract it had with the physics department at Purdue, to employ Mel there until his clearance came through.

This interim work at Purdue was extremely important to Mel, he feels, because he got out of engineering, strictly speaking, and into scientific investigation. He was assigned to Dr. Lark-Horowitz, who, Mel says, ran the Purdue physics department like a German institute. The work Mel did under this austere mentor concerned radiation damage to metals, in which a small cyclotron was used. He thus learned a little more about what he was getting into at ORNL. And a new experience came to him when upon receiving his clearance and an okay from Oak Ridge to begin his employment there, Lark-Horowitz wrote a letter asking if he could keep Mel for another three to six months. Permission was granted, and Mel felt pretty good about having people fighting over him.

Finally, he did move to Oak Ridge in November 1950 and began working for Doug Billington in the Physics and

Solids Institute, which was just being formed within the Metallurgy Division under John Fry. Later the Institute was to become the Solid-State Division. At that time they were just beginning radiation damage studies, and Mel was assigned to work on the Army Power Package Reactor System and on the molten-salt system.

## A remote systems man

After he had been at the Laboratory for about two years, Mel came to a turning point in his career and perhaps also in his coming to maturity. Billington, with whom Mel had established a warm relationship, came to Mel one day and spoke to him of the great need for remote metallography. He said it had never been developed and asked Mel if he'd like to take it on. The young engineer's immediate reaction was: "Hell no, I'm a metallurgist. I don't know anything about taking pictures!" Billington didn't give up, though, and about three months later he brought the subject up again, saying, "We still need this, and there's nobody else who looks like he can do it. Will you do it?" Mel again refused, and Billington let it pass. As Mel tells it, Billington was a very kind person with a strong will and a soft touch. And after another three months had passed, he came back to Mel with the same question, still put in a patient manner but with a little more insistence. As Mel says, he made me an offer I couldn't refuse. So Mel said, "Well, I'll try." He now sees that that was the start of his real career.

As he got involved in the work, he began to derive much satisfaction from it. His group turned out the first remote metallographic setup in the world, according to Mel. It was a little thing, he says, but it gained some notoriety. Mel gave talks about it, people came to see it, and Mel was introduced into the specialized fraternity of people, like Ray Goertz, Ken Ferguson, John Sheldon, Lou Turner, and others, who worked in the remote systems field during its infancy.

Along with Bob Gray of the Metallurgy Division, he and his group invented an automatic polishing machine, a rotating turret that you could load and unload with manipulators. Using a couple of commercial machines and designing to them additional Rube Goldberg machines, they were able to take a radioactive sample through cutting, polishing, and examination under a microscope—all by remote handling.

While at Oak Ridge, Mel studied at night over a period of six years and received a master's degree in metallurgy from the University of Tennessee, Oak Ridge Extension. And while adding to his stature as an educated man, Mel also saw his family increase in size while at Oak Ridge with the birth of a second daughter, Martha.

In 1956 Mel followed up on an opportunity to join Westinghouse Electric Corporation, and in April he joined a radiation damage group working on fuels for naval reactors. Reporting to Ron Fillnow, he in essence returned to the work he was doing during his first years at Oak Ridge. This was not to last very long, however, because at about that time Westinghouse was developing a new facility in Idaho at the National Reactor Testing Station in which Mel's talents could well be used. This was the Expended Core Facility, which was to be devoted to examining naval reactor cores after their use in submarines. And so Mel found himself putting in a day's work at Bettis doing his radiation damage work, and then driving over to another plant at Large, Pa., where a design and engineering group was putting together the plans for the ECF. He found both jobs challenging, but again discovered himself leaning more in the direction of the remote systems work.

When the ECF design was completed in 1957 and turned over to an architect-engineer, Mel was approached to go to Idaho for the construction of the facility. He accepted the job, and so in 1957 the Feldmans moved to Idaho Falls.

## The Idaho years

His years at the National Reactor Testing Station (now Idaho National Engineering Laboratory) were important ones for Mel Feldman, engaging him in a number of important projects, first with Westinghouse and then Argonne National Laboratory.

At the Expended Core Facility he worked under Paul Halpine, who was later to join the AEC. Mel was manager of metallurgy and hot cells for the ECF. At the facility they had a combination of an air atmosphere in hot cells and water in large pits where they could examine samples. In addition to looking at the cores of naval reactors, the facility was used for experiments conducted in the Materials Test Reactor. While Mel was at the facility, they came up with the idea of putting together a train of samples from the MTR in which the samples would be taken out, examined, and put back into the reactor. This technique became known as interim examination, which was to become quite important in the study of fast reactor fuels.

Mel stayed with Westinghouse until 1960, when, he explains, putting it delicately, differences developed between himself and his management. At this time Argonne was in the process of building EBR-2, connected to which would be a Fuel Cycle Facility. When Mel let the people at Argonne know that he was interested in taking another job, they brought him into the organization to work on the FCF. This was in April 1960, and the construction of the combined reactor and FCF facilities was just getting under way.

Shortly after joining Argonne, Mel and his family were sent for a year to Chicago in order to work at ANL's home base in the Metallurgy Division and in the Chemical Engineering Division, where the FCF concept had been developed. It was a good way of getting started on the job, working with the people who had developed the ideas, primarily Steve Lawroski and Milt Levenson, who was project director.

After a little over a year in Chicago, Mel and his family moved back to Idaho. The construction of the facility

Family portrait, 1955: Proud parents and children Dave, Cynthia, and Martha

At HFEF ground-breaking in July 1969 (l. to r.): Harry Lawroski, ANL; Dewitt Moss, RDT site representative; Milt Levenson, ANL; Milt Shaw, AEC-RDT; Feldman; and Paul Shewmon, ANL

was moving along, the reactor being just a little ahead of the FCF. Working under Charlie Stevenson, Mel was supervisor of fuel fabrication.

Metal fuel was produced by means of pyrometallurgical reprocessing. The pilot plant was tremendously successful, Mel feels, and was some 15 years before its time. It was an integrated process in which fuel was developed as a product of the reactor—very different from the concepts of today where one tries to optimize the fuel and doesn't worry about its reprocessing. In pyrometallurgical reprocessing some of the volatile fission products are eliminated due to the high-temperature operation, while other fission products remain in the reprocessed fuel, actually enhancing its performance.

Injection casting, using Vycor glass tubes as molds, was the technique used to produce the metal fuel pins. Feldman's responsibility was taking the refined ingot and remelting and recasting it into rods by this process. The FCF, which consists of a rectangular hot cell, having a standard air atmosphere, connected to a circular or doughnut-shape hot cell, having an argon atmosphere, ran on a continuous-operation basis. Mel ran what was essentially a remote foundry within that facility.

The FCF started hot operation in 1964, getting fully under way in 1965, and was operated through 1969. Among the things that Mel and his colleagues learned in the use of the facility was the importance when using remote processing of keeping an inventory between certain steps in the system. By doing so, a low efficiency encountered at one point in the process would not bog down the whole operation.

In 1968, the charter for EBR-2, which originally was for power prototype operation, was altered to make the facility a fast test reactor. This changed the charter of the FCF as well, and there was a gradual transition of that facility from fuel reprocessing to fuel examination. By 1969 they were finished with reprocessing, having provided five core loads for EBR-2, consisting of about 40,000 fuel elements.

With the shift in emphasis to fuel examination, Feldman and his colleagues worked on perfecting the arts and sciences of nondestructive examination, and before he left the management of the FCF in 1972, they had perfected gamma scanning techniques in which a remote installation was computer-controlled.

Earlier, about 1966, Mel had made a summation of what he thought was coming up in the seventies and projected the need for a larger facility. Whereas FCF had been built to handle fuel about 8 feet long, he could see experiments coming that were going to reach 11 and 14 and finally 27 feet, which the FCF could not handle. And so his group put together the concept for the facility known today as the Hot Fuel Examination Facility, just now getting into hot operation. Permission to begin construction of the HFEF was given in 1968, and the facility was commissioned in 1972 at the finish of construction. Since that time, it has been in the process of being equipped and readied for operation.

At the time of his promotion to associate director of Argonne–West, Mel was manager of both facilities, FCF and HFEF. The new facility will be able to handle longer and heavier experimental fuel pins, typically 61 inches long, and eventually the output of the Fast Flux Test Facility, a 94-inch-long, quarter-inch-diameter pin ("It's like handling a piece of wet spaghetti," says Feldman). The FFTF, of course, will have its own fuel examination facility eventually at Hanford. The HFEF, a single rectangular cell 30 feet wide by 70 feet long, has great versatility, using automated machinery for highly repetitious operations and manipulators with sensory feedback for less frequent operations. Knowing when to apply the principle of automation and when not to, Feldman says, is the essence of successful remote operation.

He considers his work on the HFEF his greatest achievement so far in his career, although he is hoping to say the same of his work in the future on the LMFBR fuel reprocessing facility at Oak Ridge. His assistance there should be invaluable, since Feldman is known in the industry for his ability to project future needs and to adapt facilities to those needs. He espouses a philosophy of management for the long term.

Short-term management, he says, "works wonderful in a six-month period, but it only adds up to pissing on fires. Because after the fires are put out, you are capable only of what you are capable of doing today. You haven't done anything toward your capabilities of tomorrow."

## Seeking a change

A line-oriented engineer, Feldman was not particularly happy in his position as associate director of ANL–West, and so when late last year he learned of the opportunity to return to Oak Ridge and to contribute to the development of so important a project as the LMFBR Fuel Recycle Program, he didn't need to think long before accepting the job. He started in April of this year and is working under William Burch, director of the project, who in turn reports to Don Trauger, associate director of the Laboratory. Among the guiding lights in the project are Don Ferguson, director of Chem Technology, and Floyd Culler, deputy director, well known for his work in fuel reprocessing. Feldman, as program manager of engineering systems, is to head up a set of engineering groups that will work on the design of equipment for the eventual facility to be built near the Clinch River breeder demo plant.

The Feldmans moved from Idaho Falls with some regret since they had grown to love the region and since some of the older children will remain in the West. Sons Benjamin, 15, and Matthew, 13, both of whom were born in Idaho Falls, made the trip east with their parents in the spring and are now adjusting well to their new life in Oak Ridge.

The eldest son, Dave, 28, lives in Salt Lake City with his wife, Joy, a speech pathologist. A liberal arts graduate and former English teacher, he plans to return to the University of Utah to pursue a degree in mechanical engineering. Dave is the father of a five-year-old daughter, Jacqueline, of a previous marriage, the only grandchild so far of the Feldmans.

Family portrait, 1975: Seated on couches (l. to r.), Dave, Mel, Matthew, Benjamin, and Cynthia; seated on the floor, daughter-in-law Joy, granddaughter Jacqueline, and Nancy. Missing from the family portrait: Martha (inset)

Cynthia, 25, was just graduated from the University of Utah Law School and also has a bachelor's degree in history to her credit. She intends to remain in the Salt Lake City area, and plans to practice law there. The Feldmans' other daughter, Martha, 22, is in her senior year at the University of Washington, where she is carrying a double major, political science and computer science. She expects to be graduated in December of this year and then to go on to graduate school to pursue a PhD in political science.

The children aren't the only ones who are educationally active. Nancy decided a couple of years ago to pursue a degree in nursing. And she pursued it with a passion, driving some 50 miles each way every day to Idaho State University—no small trick when your first class is at 6:30 a.m. Nancy, who has reached her sophomore year, will continue her belated college career at the University of Tennessee at Knoxville (only 22 miles away). She has already registered for algebra in summer school.

It's a busy time in other ways for the Feldmans, what with moving into a newly built home, a two-story, four-bedroom colonial situated on a spacious wooded lot on the outskirts of Oak Ridge. The landscaping is now finished, and the Feldmans are busy putting in a vegetable garden, some azaleas and other flowers, and Nancy's pet project now, a wild-flower garden.

Mel's favorite pastime is woodworking and furniture-making, and, in fact, he has provided a number of their home's early American style furnishings, including a pine desk that he designed and made for Nancy and a number of cherry clock cases.

With the exception of the girls, the family has also taken up tennis, with Nancy taking the initiative, followed by the boys, and finally Mel. Whether the excellence of play follows that order is a question only Mel can answer. One thing is sure: In whatever activity he gives himself to, Mel Feldman has shown himself to be a tireless, imaginative worker and a person of warmth, good humor, and generosity—all qualities that should serve him well in his year as president of the American Nuclear Society.—C.F.

Nancy with granddaughter Jackie