From Steerage

by Kristi Birch

When Admiral Hyman G. Rickover died in 1986, his career was extolled in numbers. Just the length of his military career was impressive enough: 63 continuous years, making the Father of the Nuclear Navy the longest-serving naval officer in U.S. history. And thanks to the technology Rickover developed in the 1950s, 150 naval ships were operating under nuclear power. Former Navy Secretary John Lehman calculated that those 150 ships accounted for 3,000 ship years of operation. The number of nuclear accidents during those three millennia? Zero.

It's hard to argue with data like that, but Rickover's success did not come easy or without conflict. He was tenacious, principled and extraordinarily hard-working, but the one thing nobody ever called him was easygoing. He didn't get to where he was by being nice, and he certainly never had it easy.

His career in ships began in steerage. In 1906, 6-year-old Chaim, as he was called then, sailed to the United States on the *Finland*, his mother guarding the sheet that held their belongings. The Rickovers had left their hometown of Makow in what was then Russia because of the anti-Semitism of that time. The family eventually settled in a poor immigrant area of Chicago. Years later, Rickover would learn that all the Jewish residents in Makow had been killed in the Holocaust.

He got his first job at the age of 9, when he earned three cents an hour holding a kerosene lantern for a neighbor who operated a machine in his basement that shaped pieces of galvanized iron used to decorate buildings. In high school, he delivered telegrams for Western Union. He often made deliveries to his congressman, Adolph Sabath. Sabath nominated Rickover to the U.S. Naval Academy in Annapolis in 1918. Rickover was thrilled: he desperately

Admiral Hyman G. Rickover oversaw the development of the first nuclear submarine, the *USS Nautilus*, right, which was in service for 24 years and needed refueling only three times.

Admiral and Mrs. Rickover meet with President and Mrs. Carter in 1977 at the White House (opposite, left); Captain Alton K. Thompson, center, gives Admiral Rickover, left, and Vice President George H. W. Bush a tour of the nuclear-powered ballistic missile submarine *USS Ohio* (SSBN-726) following the commissioning ceremony (opposite, right).

to Four Stars

The Career of Hyman Rickover, Father of the Nuclear Navy

wanted an education, his family had no money for tuition, and the Academy was free.

But being nominated did not mean being accepted, and because he had to work during high school, he was not prepared for the Naval Academy's entrance exams. So he holed up and studied night and day for weeks, and passed—just barely. "I was probably as poorly prepared academically as any plebe who had ever entered the Naval Academy," he remembered in a 1983 editorial in *The Washington Post*.

Once at the Academy, he continued to work hard, disregarding the first of many Navy rules by studying after taps, and managed to graduate 107th in his class of 540. He spent the first five years after Annapolis serving on the destroyer the *USS La Vallette* and the battleship *Nevada*. In 1929, he earned a master's degree in electrical engineering from Columbia University, and then went to the Navy's submarine school.

Rickover got a taste of submarine life and submarine problems when he was assigned as an engineer on the *S-48*, an old submarine whose sister ships had either sunk or had explosions at sea. Not long after he came aboard, one of the *S-48's* main batteries caught fire, which could have caused a serious explosion. Rickover climbed into the hull wearing a gas mask and smothered the fire with blankets. Later, when the submarine's propulsion motors kept acting up, he redesigned and rebuilt them.

He had his only sea command assignment in 1937 on the *USS Finch*, a minesweeper. During World War II, he served as head of the Electrical Section of the Bureau of Ships and then as industrial manager in Okinawa, commanding the Naval Repair Base.

In 1946, Captain Rickover received orders to report to Oak Ridge, Tenn., to be trained in nuclear power and reactors. Oak Ridge was one of three main research sites of the Manhattan Project, the United States' secret program aimed at developing an atomic bomb before the Germans. There, he became convinced that submarines should run on nuclear power. The United States' military policy during the Cold War was deterrence through the threat of annihilation. Nuclear subs could provide that. At the time, submarines were propelled by fuel-burning diesel engines on the surface, and by batteries when submerged. The batteries were charged by the diesel engines, so these submarines had to resurface every few days for the diesel engines to get enough oxygen to recharge the batteries. A submarine powered by a nuclear reactor, on the other hand, could stay submerged for months at a time and thus remain invulnerable to attack. At first, the Navy was resistant to Rickover's ideas. It called him back to Washington and gave him an atomic energy advisory position. His office was a converted former women's restroom.

Anything but a quitter, Rickover pleaded his case for atomic submarines to the chief of naval operations, Admiral Chester W. Nimitz. A former submarine guy himself, Nimitz approved the idea, and Rickover became head of the new Nuclear Power Division Bureau of Ships. Just a couple of years later, the Atomic Energy Commission decided to create a Division of Reactor Development, which would have a branch for naval reactors. It hired Rickover to head the branch.

With both of these positions, Rickover now had real power. It has been reported that he even sometimes wrote letters on one letterhead to himself in his other position. (Any requests made in the letters were always approved.)

Working himself and his group at a merciless pace, Rickover took less than a decade to oversee the development of the first nuclear submarine. Initial sea trials began in 1954,

and on January 17, 1955, the *USS Nautilus* glided down the Thames River in Connecticut and blinked out the message, "Under way on nuclear power." The *Nautilus* traveled more than 62,000 miles and did not need refueling until 1957. During her 24 years of service, she needed refueling just three times. (The new Virginia-class nuclear submarines are expected to steam for their full service life without refueling at all.) She was the first submarine to pass under the North Pole's icecap. In 1960, the *Triton*, another nuclear submarine, became the first ship to circumnavigate the world totally submerged.

Despite his work during this time, in 1951, a Navy selection board passed over promoting Captain Rickover. He was passed over again the following year. Typically, being passed over twice forces an officer into retirement. But the second time, the press and the Senate Armed Services Committee objected, and another selection board convened, promoting him to rear admiral in 1953.

The reason the Navy gave for passing on Rickover's promotion was that he was too specialized to meet the qualifications of a flag office. But many believed that Rickover's caustic personality was the problem, plus the fact that he didn't act like a Navy man. He rarely wore his uniform, and he once bragged that he'd never had a book of Navy regulations in his office. And he suffered fools badly. As he said to Diane Sawyer on "60 Minutes" in 1984, "I never thought I was smart. I thought the people I dealt with were dumb. Including you."

Rickover personally interviewed every officer candidate applying for jobs aboard a nuclear submarine. The interviews were legendary. He made candidates sit in chairs with six inches sawed off the front legs, so they would feel out of balance. Then he tried to intimidate them to see how they would react under stress. *Newsweek* reported an incident in which Rickover told an applicant that if he really wanted the position, he would call his fiancée and call off the wedding. When the man picked up the phone, Rickover cursed at him for being spineless. The man did not get the job.

But his uncompromising demand for excellence also earned him admirers as well. The most famous one was President Jimmy Carter, who had served under him as a naval officer. Carter once said that Rickover had more influence on him than anyone except his parents. When junior officer Carter interviewed with Rickover, Rickover asked him how he'd performed at the Naval Academy, and Carter was pleased to say he'd graduated 29th out of 820. But when Rickover asked him if he'd done his best, and Carter said "not always," Rickover shot back, "Why not?" Hence the title of Carter's 1976 campaign autobiography, *Why Not the Best?*

Rickover was awarded two Congressional Gold Medals, one in 1958 and another in 1982, not only for his work in nuclear submarines but also for overseeing the development of the first large-scale civilian power station: a pressurized water reactor at Shippingport, Pa., which supplied electricity to Pittsburgh. In 1980, President Jimmy Carter presented Admiral Rickover with the Presidential Medal of Freedom, the country's highest non-military honor.

Admiral Rickover was also a huge advocate and critic of American education. He and his first wife, Ruth, spent countless hours researching and writing about the inadequacies of American schools. The admiral published three books about education reform in the late 1950s and early '60s. Three years before he died, he founded the Center for Excellence in Education, which sponsors the U.S. Biology Olympiad, a biology competition for U.S. high school students, and the Research Science Institute at MIT, a highly competitive summer program in math, the sciences, and engineering for approximately 75 select high school students, known as "Rickoids."

Rickover himself was not exempt from his own criticism. By the time he retired in 1982, the four-star admiral had become ambivalent about his role in the arms race. In his last appearance before Congress, he said, "I did it because it was necessary for the safety of this country" but also said he would "sink them all" if the Soviets would also disarm. He expressed his fear that the human race would destroy itself, not only from the use of weapons but also through the radiation that can result from nuclear power. "Some new species will come along," he added. "They may be wiser."

The Shippingport, Pa., power station developed by Admiral Rickover.