

## Nuclear Energy: Suddenly The Future Is Today

It was just 20 years ago that nuclear power moved out of the dreams of scientists and towards reality for all of us. That year, the Atomic Energy Act was passed, stripping nuclear technology of its aura of government secrecy and allowing utilities to develop it for peaceful uses. Since then, the nuclear profile has sometimes been low, but when the energy crisis first loomed over the nation a few years ago, the power of the atom began to emerge as an essential source of electricity.

Now in 1974, 20 years after passage of the Act, the nuclear age has arrived in full force. "We have crossed the threshold," says Carl Walske, President of the Atomic Industrial Forum. "By any reckoning we are now in the nuclear age. Nuclear power has become a fully competitive, widely adopted, conventional source of electricity. In only

a few years, nuclear power has gone from a blip on the charts to the source of about six percent of our electric power capacity." Although this contribution is made by fewer than fifty nuclear plants, more and more utilities are coming to regard it with respect.

Utilities need reliable sources of electrical energy. Despite the energy crisis, the demand for all forms of energy continues to grow in the United States—for industry, pollution control, mass transportation, and automobiles. But of all forms of energy, none will be in greater demand than electricity, as more and more jobs in the home and in business are turned over to it. Today, electric power accounts for 25 percent of total energy. By 2000, it is expected to account for 50 percent. To meet this demand, electric utilities are using all available fuels, mostly oil, coal, gas and nuclear. Oil and gas

are limited in supply, as we have been hearing. Coal is plentiful enough, but environment problems limit its use. There is an adequate supply of nuclear fuel, on the other hand, and utilities are finding it a reliable source of safe, economic, and clean energy.

Progress in nuclear power may have seemed slow at times, but actually it has exceeded early expectations. In 1959, the official estimate was that nuclear capacity in the United States would be 25,000 megawatts (a megawatt is equal to a million watts) by 1980. In fact, that level was achieved by the utilities industry by 1973. The Atomic Energy Commission's most recent forecast for 1980 is for over 100,000 megawatts—more than four times the figure projected in 1959. Further projections are for 500,000 megawatts of nuclear power by 1990, which would represent a full 50 percent of the U.S. electrical generating capacity, and 1.2 million megawatts by the year 2000, which would represent 60 percent of capacity. At the moment, there are more than 150 nuclear reactors being built or in various stages of planning to help reach these goals.

Already nuclear energy is a major source of electricity in some parts of the country right now. In 1971 in New England, it will represent over 20 percent of net kilowatt hours this year. In the Chicago area, Commonwealth Edison expects it to account for about a third of net kilowatt hours. To produce these same amounts of energy in those areas would require about



Two workers confer during construction of a reactor.

two and a half billion gallons of oil—or more than 17 million tons of coal.

Every day, the prices of oil and coal are rising, while nuclear fuel prices are remaining fairly stable.

What has all this meant to someone who pays an electric bill every month? It has meant that the bill has risen in the last year 10, 50 or even 100 percent in areas where electricity comes from oil or coal plants. But, in those areas where nuclear power is making a contribution, electric bills have risen at a substantially slower rate.

The economic advantage of nuclear energy are clear cut. Charles F. Jones, President of the NUS Corporation, and consultant to utilities, says "The facts are that coal is two to three times more expensive than nuclear today and oil is five to seven times more expensive. I think it's a pretty fair guess that nuclear is going to hold its own and probably improve its position compared to fossil fuels."

If the projections mentioned above materialize—and there are obviously good reasons to assume they will—nuclear power will do much more than "hold its own." It will become the major source of electricity before the next century.



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A nuclear reactor as it nears completion. The heat generated by the reactor will power the steam generators on each side.

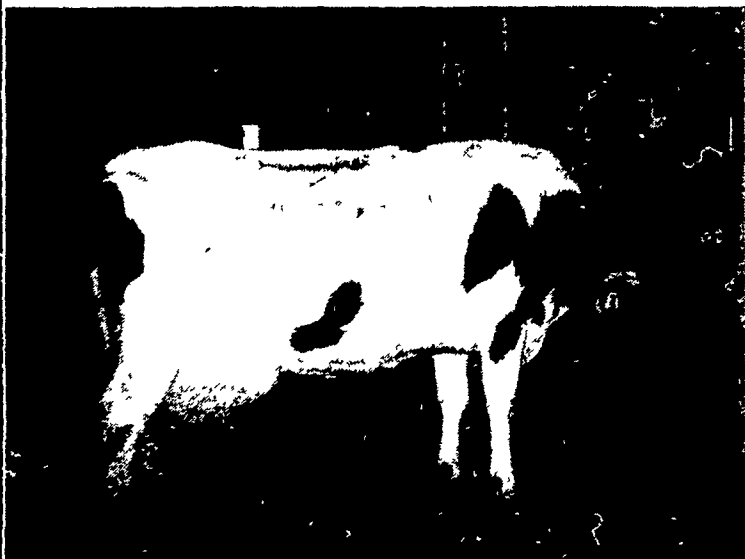


# JUNE IS DAIRY MONTH



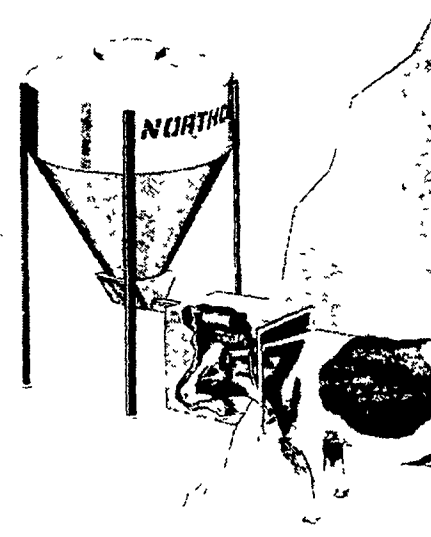
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