
BACKGROUND BOOKS

NUCLEAR POWER IN AMERICA

Around the world, power reactors and those aboard naval ships have logged more than 4,000 years of operation since World War II. By now, most *specialists* are satisfied with the safety record of nuclear power.

So argues University of Pittsburgh physicist Bernard L. Cohen in **Before It's Too Late: A Scientist's Case for Nuclear Energy** (Plenum, 1983). He cites polls showing that 89 percent of scientists (and 95 percent of those in energy-related fields) favor atomic power. Yet many laymen still rank the atom as a worse hazard than auto accidents and cigarette smoking. They are, Cohen says, "misinformed."

A study directed by Norman Rasmussen of the Massachusetts Institute of Technology and released by the Atomic Energy Commission (AEC) in 1975 reported that a loss of coolant accident (LOCA) might occur once in 2,000 years of reactor use (i.e., once every 20 years in a country with 100 reactors). A core-melt might happen once in 20,000 reactor-years.

Critics (including the American Physical Society) held that those projections were too optimistic; an independent panel found the study flawed, and in 1979 the Nuclear Regulatory Commission virtually repudiated it. But so far, Cohen notes, the forecasts are roughly on track.

As yet there have been no full meltdowns, and just one LOCA (Three Mile Island). Indeed, other power sources pose substantial hazards. The worst "energy-related incident" to date involved a fossil fuel. In London in 1952, a thick smog fed by smoke from coal-burning furnaces caused 3,500 deaths in a few days.

There *are* dispassionate dissections of atomic energy issues, such as **Nuclear Power: Both Sides** (Norton,

1982), edited by Michio Kaku and Jennifer Trainer. But much of the literature is polarized.

After Sheldon Novick's **The Careless Atom** (Houghton, 1964), a mild critique of nuclear energy, the opposition grew more impassioned, as suggested by titles such as John W. Gofman and Arthur Tamplin's **Poisoned Power: The Case against Nuclear Power Plants** (Rodale, 1971; Committee for Nuclear Responsibility, rev. ed., 1979) and **The Cult of the Atom: The Secret Papers of the Atomic Energy Commission** (Simon & Schuster, 1982) by Daniel Ford, a former leader of the antinuclear Union of Concerned Scientists.

Such works have both shaped and mirrored a social phenomenon in the West that America's early champions of atomic power never foresaw: the antinuclear movement.

Richard S. Lewis traces **The Nuclear Power Rebellion** (Viking, 1972) to local protests, such as the one that led to the 1964 demise of a plan for a plant north of San Francisco at Bodega Head, near the San Andreas Fault. Such "intervention" in site selection became "the citizen's weapon against the Establishment."

In Samuel McCracken's view, **The War against the Atom** (Basic, 1982) was launched by veterans of the civil rights struggle who found new causes: Vietnam, then the environment. Nuclear power was "the perfect demon. Kick it and you kick large corporations, the government, and technology, all with one blow."

The movement drew people with practical concerns (e.g., fishermen) and middle- and upper-income advocates of both no-growth policies and the back-to-nature ways hailed in the "Split Wood, Not Atoms" bumper

sticker. And there were those, as David Lilienthal, the first AEC chairman, notes in **Atomic Energy: A New Start** (Harper, 1980), who feared "industrial and technological forces" and saw atomic energy as the most "mystical" of them all.

Soon, William Sweet writes in **The Nuclear Age** (Congressional Quarterly, 1984), advocacy groups appeared, many combining dues-paying citizens with "scientists and economists, lawyers and lobbyists, organizers and fund-raisers, writers and public relations experts."

The movement went transatlantic, as Bertrand Goldschmidt details in **The Atomic Complex** (American Nuclear Society, 1982). West European ecologists had favored the atom over river-choking hydro dams. But by the early 1970s they were marching against nuclear projects.

In 1975, as Peter Pringle and James Spigelman relate in **The Nuclear Barons** (Holt, 1981, cloth; Avon, 1983, paper), residents of Whyl, West Germany, occupied a plant site, saying that mist from the cooling towers would hurt vineyards. The project was canceled, and later a New Hampshire group, the Clamshell Alliance, made its first attempt to occupy the Seabrook plant site.

Similar alliances—Crabshell, Oystershell, Abalone—took on other nuclear projects. While these groups were composed mostly of young people and the issues were local, by the late 1970s their much publicized activities sparked an intermittent national debate about atomic power.

The debate was a bit confused. As orders for new plants fell after the mid-1970s, the movement focused on waste and proliferation. Some activists, such as Australian-born pediatrician Helen Caldicott, author of **Nuclear Madness** (Autumn, 1979) and a leader of the drive to "freeze" nuclear arms, tended to depict atomic weapons and atomic energy as interchangeable evils.

Lilienthal argues that while antinuclear groups have included "arrogant, ignorant, and self-seeking" people, they have stirred a field in which official "complacency" has reigned too long. But in the end, University of Missouri historians Gerard H. Clarfild and William M. Wiecek conclude in **Nuclear America** (Harper, 1984), what brought atomic power "to its knees" was the economic factor.

What now? In his book, Bertrand Goldschmidt, a former board chairman of the International Atomic Energy Agency, notes that public opposition to earlier innovations, such as railroads during the 19th century, soon faded. Not so with atomic power, despite the remarkable "absence [in the West] of any nuclear accident" resulting in casualties outside a plant. Yet the need for such power will persist. Globally, energy use quadrupled between 1950 and 1980, and the lowest forecast projects another 50 percent rise by the end of the century. Sheer demand, Goldschmidt predicts, "will force a relaunching of nuclear programs throughout the Western World," including the United States.

EDITOR'S NOTE: Interested readers are invited to consult WQ's *Background Books* essays on *Salvaging the Atomic Age* (Summer 1979) and *Energy: 1945-1980* (Spring 1981).