designed to eliminate grounds for federal intervention.

The American Association of Pediatrics (AAP), which spearheaded the opposition to earlier HHS-proposed guidelines, regards the final rules as a "significant victory," according to AAP lawyer Stephan Lawton. Even after the child abuse act was passed, HHS was preparing to issue guidelines with provisions engineered by the right-to-life community. These were relegated to an appendix after intercession by the six senators, including Orrin G. Hatch (R–Utah), who hammered out a legislative compromise last summer.

—CONSTANCE HOLDEN

Panel Examines Costs of Nuclear Warheads

Last year, two senior senators on the Armed Services Committee became indignant about the sharply rising cost of nuclear warhead production, now paid by the Department of Energy (DOE). Arguing that the Department of Defense (DOD) is the primary culprit, because it selects the design and sets the number of warheads to be produced, Senators John Warner (R–Va.) and Sam Nunn (D.–Ga.) proposed to shift all production costs to the Pentagon's budget.

Not surprisingly the proposal was defeated, but in its ashes rose a study group known as the Blue Ribbon Task Group on Nuclear Weapons Management, which began a series of hearings on the topic last month. Its members, appointed partly by Congress and partly by the White House, include Harold Agnew, a former director of Los Alamos National Laboratory; William Clark, President Reagan's former national security adviser; Alan Furth, president of the Southern Pacific Company; Jeane Kirkpatrick, a former U.S. representative to the U.N.; Frederick Kroesen, a retired general who commanded the U.S. Army in Europe; William Perry, a former under secretary of defense for research and engineering; and James Schlesinger, a former secretary of defense.

One of the group's first tasks is to determine exactly how much warhead production costs have risen in recent years, a topic of some dispute between Congress and the Administration. Thomas Cochran, a senior staff scientist at the National Resources Defense Council, estimates that overall the government is spending roughly six times what it did in the 1950's to produce a single modern warhead in constant dollars. But this estimate is based on unclassified data, and the panelists—who all have high-level security clearances—might reach a different conclusion.

A second goal is to determine if the DOD should indeed fund warhead design and production, or whether costs can be reduced through less sweeping reforms. Nunn and Warner have told the group that as long as DOE is paying the tab, the Pentagon has little incentive to restrain its appetite for numerous warheads of complex design. They now believe that DOE should remain in control but receive total reimbursement from DOD. Others, including the directors of the weapons laboratories at Livermore and Los Alamos, have told the group that such an arrangement would threaten their independence.

Thus far, the group has also heard from a half dozen retired weapons officials, Alton Keel of the Office of Management and Budget, Secretary of Defense Caspar Weinberger, Secretary of Energy John Herrington, and various officials at the Strategic Air Command, which supervises warhead planning and targeting. All of the meetings have been closed. The group's report is due by 15 July.

—R. JEFFREY SMITH

Utilities Look to New Coal Combustion Technology

A large number of electric utilities that face having to build new generation capacity in the 1990's are choosing to erect coal-fired units rather than nuclear power plants. But concerns about the outcome of the acid rain debate and other clean air issues that may spur stiffer emission standards have caused utilities to move cautiously. Now the industry appears to be on the verge of making a fundamental shift away from conventional coal boilers to more advanced coal combustion technology.

As many as 12 electric utilities are actively considering building integrated gasification combined-cycle (IGCC) generating plants with capacities in the 350- to 400-megawatt range between 1993 and 1995, says Dwain Spencer, vice president of advanced power systems for the Electric Power Research Institute (EPRI). Three site-specific studies already are underway by Potomac Electric Power, Cleveland Electric Illuminating, and Northeast Utilities. Nevada Power and Southern California Edison also are said to be looking at the technology, which ties a Texaco coal gasifier to a gas turbine.

The utility industry's enthusiasm for IGCC technology springs from the operating results of the Cool Water Coal Gasification Project in Daggett, California, which began operating in 1984. The 100-megawatt demonstration plant converts 1000 tons of subbituminous coal per day into synthesis gas. An oil-fired utility boiler with the same power rating would require 4300 barrels of oil per day.

"IGCC offers significant environmental advantages," says Spencer, Operating results from Cool Water indicate that sulfur dioxide removal rates of 95 percent can be easily achieved, along with major improvements in controlling emissions of nitrogen oxides. Furthermore, the IGCC process does not penalize the utility by robbing it of as much as 10 percent of its generating capacity. In contrast, most new coal-fired plants require flue-gas scrubbers that consume a significant portion of a generating station's power.

Utility-scale development of the technology has been largely carried out by EPRI and a consortium of companies: Texaco, Inc., Southern California Edison, Co., Bechtel Power Corp., General Electric Co., and Japan Cool Water Program Partnership, a Japanese consortium. The U.S. Synthetic Fuels Corporation, however, has provided $120 million in price guarantees to assure that the facility operates for 5 years or until it produces 20 trillion cubic feet of synthetic gas. The price guarantee covers the difference in the market price of the electricity produced from the synthetic gas and a base price for the Cool Water gas of $12.50 (1983 dollars) per million Btu. The rate then falls to $9.75 per million Btu following production of the first 9 trillion cubic feet of gas from the plant.—MARK CRAWFORD