

bishing or remanufacturing of age-affected components and to evaluate the resulting product—for example, the high explosive, the boost gas system, the tritium loading, etc.” The Drell panel also called for a stockpile stewardship program “that will sustain a strong scientific and technical base, including an experienced cadre of capable scientists and engineers. . . . For the success of this program, the management of the three weapons laboratories (Los Alamos, Livermore and Sandia) must motivate, support and reward effort in an area that has lost some of its glamor and excitement in the absence of new nuclear design and test opportunities.”

The report admits to a concern: “The individual weapon types in the enduring stockpile have a range of performance margins, all of which we judge to be adequate at this time. . . . However, greatest care in the form of self-discipline will be required to avoid system modifications, even if aimed at ‘improvements,’ which may compromise reliability.” It also speaks to the issue of primary testing raised by Agnew. The main argument in support of testing up to a yield equal to 500 tons “depends on such tests being performed on a continuing basis and yielding reproducible results. If they are permitted only for a few years, such tests could add to the theoretical understanding of the boosting process and the reliability of the computer codes that attempt to describe it, but would not contribute directly to the reliability of the weapons in the enduring stockpile in view of the possible manufacturing changes made at a later date. To gain evidence as to whether long-term changes in age-affected weapons components have any impact on boost performance, the tests would have to be made with the remanufactured weapons themselves. In order to contribute to long-term confidence in the US stockpile, testing of nuclear weapons under a 500-ton yield would have to be done on a continuing basis, which is tantamount to remaking the comprehensive test-ban treaty into a threshold test-ban treaty. . . . In the last analysis the technical contribution of such a testing program must be weighed against its costs and its political impact on the nonproliferation goals of the US.”

The panel did not believe a persuasive case has been made for hydronuclear tests at yields below 4 pounds of TNT-equivalent to detect small changes in the performance of weapons in the stockpile. “At best, such tests could confirm the safety of a device against producing detectable

nuclear yield if its high explosive is detonated accidentally at one point,” the report said. “We find that the US arsenal has neither a present nor anticipated need for such reconfirmation. The existing large nuclear test data base can serve to validate two- and three-dimensional computational techniques for evaluating any new one-point safety scenarios.”

Finally, the Drell group insisted that the treaty contain a clause on “supreme national interest.” The panel wrote: “Recognizing that the challenge of maintaining an effective nuclear stockpile for an indefinite period without benefit of underground tests is an important and also a new one, the US should affirm its readiness to invoke the supreme national interest clause should the need arise as a result of unanticipated technical problems in the enduring stockpile.”

This statement became a major turning point for the Pentagon brass when Drell and Peurifoy briefed the Joint Chiefs and its chairman, John M. Shalikashvili, on 27 July.

The Energy Department defense programs office added its own commitment to the Jason report on 7 September when it gave the Intel Corporation a \$45 million contract to design and build a supercomputer capable of simulating nuclear tests to ensure the quality of the nuclear stockpile. Intel announced that it would use 9000 of its newly designed P6 microprocessors in a massively parallel computer to attain more than 1 trillion floating-point operations per second—the long-awaited goal of a teraflop. When completed in about two years, the new supercomputer will be housed at the Sandia lab in Albuquerque, New Mexico.

IRWIN GOODWIN

Congress Murders Its Analytic Child, Ending OTA's Bipartisan Studies

DEATH NOTICE

Office of Technology Assessment, on 30 September 1995, after serving 23 years as the uniquely nonpartisan research and analysis think-tank of Congress on issues ranging from urban waste management to nuclear energy to global securities markets and space satellites. No survivors. No flowers. Private services at 600 Pennsylvania Avenue, S.E., Washington DC 20003.

In 1979 the Office of Technology Assessment was asked by the Senate armed services committee to examine the consequences of a nuclear attack on a typical American city. OTA picked the university town of Charlottesville, Virginia, for its case study. The resulting report shocked not only 100 senators but 435 members of the House of Representatives with its estimates that even a limited nuclear war would cause up to ten times more deaths than military planners had figured and leave society in tatters.

Another report that year suggested that the Carter Administration's plan for a full-scale shale-oil plant was economically unsound and that it would be better to build several modest-sized “pilot” plants to help evaluate different methods of synfuel production. The government's Synthetic Fuels Corporation essentially followed the option provided by OTA and

proved to be a financial fiasco.

OTA has often shocked and sometimes disappointed its bosses in Congress since it began its studies of scientific, technical and medical issues in 1972. Over the years it has produced about 735 reports that review and analyze a wide range of matters. OTA was designed to be bipartisan and bicameral. It was overseen by a board consisting of equal numbers of senators and representatives, Republicans and Democrats. Forbidden from issuing recommendations for a single position, it set out the consequences for various options and policies.

In comparison with the multibillion dollar operations in Washington, OTA was small stuff—\$22 million this year and \$15 million proposed for fiscal 1996. Its professional staff consisted of 143, more than half of them with advanced degrees in science or engineering (among these, 8 PhD physicists).

But in the highly charged political atmosphere that now exists on Capitol Hill, OTA was viewed as an intellectually influential bastion of liberals who had served committees headed by Democrats until the Republicans took over last year. So OTA was abolished with only a whimper of outrage from the Clinton Administration, which could do little anyway to keep the organization alive as long as it was a creature of Congress.

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