# The Waterway That Cannot Be Stopped

## *Construction of the Tenn-Tom continues despite congressional attacks, court suits, and enormous cost increases*

Deep in the Mississippi and Alabama backwoods, the Army Corps of Engineers is displacing more earth than it did while building the Panama Canal three-quarters of a century ago. The purpose is to join two rivers—the Tennessee and the Tombigbee—with a controversial and enormously costly water project. Thousands of acres of timber and productive farmland are to be submerged beneath the waterway so that coal and other commodities from the Midwest can be shipped to the Gulf of Mexico by a shorter route than now provided by the Mississippi River.

The project was first authorized in 1942, and ever since it has been an object of congressional strife. The economic rationale for building it, never very great, has worsened in recent years as pollution control efforts have diminished the market for high-sulfur midwestern coal. Opponents in the House of Representatives, who draw support from the environmental community and railroad companies that would compete with the waterway, mounted an aggressive but ultimately losing battle to terminate the project last month.

The waterway is now more than half complete, and the congressmen's foremost consideration may have been the embarrassment of stopping in midstream. As Representative David Bowen (D–Miss.), one of its backers, noted, outright termination would leave behind "the largest swamp in America," a useless trench costing more than $1 billion. And so, by the slim margin of 208 to 198—with 26 members absent—the House agreed to continue appropriations of $20 million a month for another year. A similarly close but favorable vote is expected soon in the Senate, where the issue to be addressed is whether the government should sink as much as several billion dollars more into the project, or salvage as much as possible from the existing work and walk away.

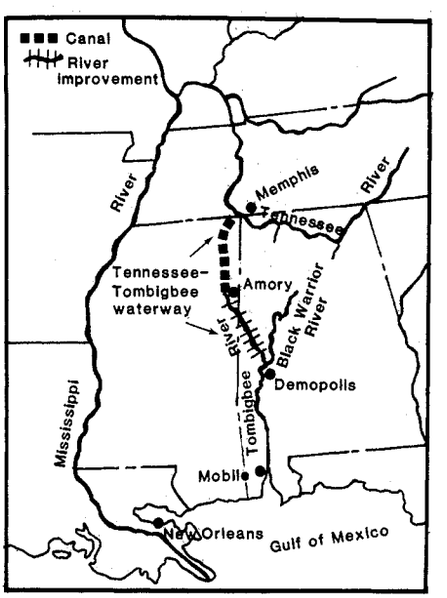
The project was first given money in 1971, when delegates from the South exercised great influence in Congress, and the political descendants of those men remain its guardians. Support during the recent debate came from representatives of Louisiana, Kentucky, Alabama, and Mississippi. Representative Tom Bevill of Alabama is chairman of the appropriations subcommittee with jurisdiction over the project. Representative Ronnie Flippo. also from Alabama, told his colleagues that the waterway supplied 5000 jobs in one of the poorest, least developed areas of the country. Representative Carroll Hubbard (D–Ky.) claimed it would facilitate increased coal sales from Illinois, Ohio, and Indiana, as well as the southern states.

Congress was initially assured that such benefits could be purchased for only $323 million. The current estimate of the project's costs stands at $2 billion. Estimates of cost are a particularly tricky undertaking in water projects, because the Corps of Engineers is generally prohibited from constructing a project with costs that exceed the benefits. The Corps has honed its estimating skills to a fine art over the last half-century. In 1971, the ratio of benefits to costs for the waterway was 1.6 to 1; but by 1976, it had deteriorated to 1.08 to 1, a level described by a Corps official as "marginal, yet certainly satisfactory."

More recently, the Corps has skirted the issue by updating costs but failing to restudy benefits, which critics say have dissipated. In 1976, for example, the Corps and its economic consultant, A. T. Kearney, Inc., of Chicago, found several dozen firms in the region of the waterway who said they planned to use it after it was completed. Early this year, the General Accounting Office (GAO) contacted 17 of these firms—representing the bulk of the predicted shipments—and discovered that only about half are still interested. The GAO found that some of the predictions "were not based on 'definite' company plans." In other instances, the shipment volumes could not be verified. In sum, the GAO said, Kearney's estimating practices "may have been too liberal."

Similarly, the Congressional Research Service, after a study, determined that the waterway may not have any significant advantage over the virtually parallel Mississippi. While the waterway will shorten the distance of likely shipments by an average of 40 percent, barges will travel more slowly than on the Mississippi because of the waterway's ten time-consuming locks. Its winding turns and narrow channel will force barges to travel in tows of four to six, while the broad Mississippi can accommodate tows of up to 45 barges. Barge operators will save on fuel but spend more on labor if they choose the waterway. Shippers could also use nearby railways, which will offer the waterway "very stiff competition," according to the research service.

In addition to challenging the project's purported benefits, congressional critics also charged that the cost remains grossly understated. The waterway now consists of three parts: a 40-mile channel cut directly through mountains from the Tennessee River to the northernmost reaches of the Tombigbee; a 44-mile canal that runs alongside the Tombigbee to Amory, Mississippi; and a 148-mile stretch of the Tombigbee itself that is to be widened and straightened so that barges can traverse it to reach an existing waterway running south from Demopolis, Alabama, to the Gulf. When the GAO examined the projected waterway traffic, it concluded that a bottleneck would develop on this latter waterway, and that $960 million in additional improvements should be considered the fourth, hidden leg of the project. Channels in the existing waterway will need to be widened and straightened, its lock capacity will have to be expanded, and overhanging bridges will have to be rebuilt.





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The GAO's assertion aroused considerable controversy on the House floor, with critics complaining that completion of the project, already forecast at six times its initial budget, will then obligate the government to spend an additional $1 billion so that it can be used at full capacity. The project's supporters simply deny that a bottleneck will develop.

Other hidden federal project costs detected by the GAO could include as much as $31.5 million to soften the waterway's impact on fish and wildlife; $360 million to deepen and widen the port of Mobile, where barges will enter the Gulf; and $48 million to construct waterway-related recreational facilities. Mississippi and Alabama, which are obligated under federal water project rules to spend $170 million for highway and bridge relocations, are actually receiving $90 million of this amount from the federal Department of Transportation.

None of these costs are included in the Corps' cost-benefit calculations, because—as the Corps explains—the agency's rules do not require it. Last year, at congressional request, the Corps estimated that it would cost $131 million to terminate the project, an estimate that the GAO found to be inflated and based largely on guesswork that consumed 4 hours of Corps officials' time.

Yet even the savings between the Corps' high estimate for termination and the prospective future costs failed to impress the House. Representative James Leach (R–Iowa) said that "the issue at stake is, above all, one of modesty—whether we, as a Congress, can recognize past mistakes. . . . The Tenn-Tom project is bigger than the Panama Canal, but the potential usage is trivial by comparison. . . . It stands as a monument to the congressional pork barrel rather than as a project useful to the economic well-being of the country." But Representative Wes Watkins (D–Okla.) opposed termination because it would "place egg on the face of this Congress and egg on the face of the taxpayers of this country." The House refused even to slow the project's pace by cutting its budget in half, although the vote was closer than in previous termination attempts.


Army Corps of Engineers

*The channel between the Tennessee and Tombigbee rivers, shown here, is almost three-quarters complete. The Corps says proudly that the quantity of dirt excavated to build it is sufficient to construct a two-lane highway to the moon, a project not yet proposed.*

Even if the Senate concurs with the House approval, the waterway must pass a legal hurdle that remains the last best hope of the environmental community. The U.S. Court of Appeals in the fifth circuit decided on 15 July that the Corps had "blatantly violated the National Environmental Policy Act and its own regulations" by refusing to prepare a supplemental impact statement on changes to the project made during the last decade. The Environmental Defense Fund had claimed that some of the changes will result in lower water quality, increased land erosion, and stagnation of a portion of the Tombigbee River. A Corps official admitted in a deposition that a supplementary impact statement was not filed so as to prevent additional public hearings.

The court ordered that some of the work on the waterway, involving the more recent design changes, be stopped

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## Reagan's Cabinet Split on Synfuels Funding

President Reagan approved his first synthetic fuel subsidy in circumstances that suggest such decisions will come neither quickly nor painlessly in the future. On 22 July the President settled what had become a major policy dispute in the Cabinet over the handling of a shale oil project backed by the Union Oil Company.

Secretary of Energy James Edwards, with the backing of some Republicans in Congress, had endorsed funding the Union project and two other projects left over from the Carter Administration. One of these was a shale oil plant cosponsored by the Tosco company and by Exxon, and the other was American Natural Resources' proposal to build a Great Plains coal gasification plant in North Dakota.

David Stockman, director of the Office of Management and Budget (OMB), has opposed all three of these as not deserving federal aid. Oil companies, in his view, are supposed to fend for themselves. As a congressman, he voted against the synfuels subsidy bill. Now at the OMB, he argues that energy companies seeking federal help should apply not to the kind-hearted Department of Energy, but to the Synthetic Fuels Corporation, which has tougher fiscal and technical requirements. When Stockman blocked funding for the three projects in Edwards' budget, the intra-Cabinet dispute went to the President.

After hearing arguments from both sides, Reagan overruled Stockman on one case: the Union Oil deal. Reagan approved what is in fact a contract from the Department of Defense promising to purchase synthetic jet fuel from Union at a fixed price. Giving Union a price guarantee of this kind is less risky for the government than granting the loan guarantees sought by Tosco and the Great Plains outfit. The government loses nothing if Union's plant fails to produce oil. In the worst case, the Defense Department could end up paying $400 million more than the market cost to obtain jet fuel from Union. But if the Tosco or Great Plains project failed, the loan money would be forfeit.

While Union has been given its


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until a supplementary statement is produced, a process that will take about a year. The court also said that the Corps should no longer claim, for the purposes of comparing costs and benefits, that the cost of borrowing money is only 3.5 percent. As the court notes, use of a 7.5 percent interest rate—permissible under Corps rules but still distant from market rates—could drop the project "below the level of economic justification." Even under the Corps' flexible standards, it could force the project's deferral or cancellation.—R. JEFFREY SMITH

# DOE Laboratories in the Spotlight

## *Science adviser sees likelihood of Administration review; university, industry witnesses call for a shift of resources*

A large segment of the country's technical resources are deployed in the national laboratories owned by the Department of Energy (DOE). The role and performance in energy research of the federal laboratories has come under sharp criticism in recent years. At hearings held jointly by two House energy subcommittees on 29 July, one critic charged the national labs with competing unnecessarily with universities in research and another taxed the DOE labs for using research funds that would be better spent in industry. The lead witness, President's science adviser George A. Keyworth II, said that now is a "critical time to redefine the national laboratories' mission." He indicated that the Administration will undertake a review of the national laboratories with that in view. Keyworth, an alumnus of the Los Alamos nuclear weapons laboratory, said in response to questioning that he regards the fraction of energy research funds going to the DOE laboratories as "too large" and believes that DOE should find ways to transfer some of those funds to "industry and academia."

DOE has 57 government-owned, contractor-operated plants and laboratories, but the focus of the hearings was the dozen so-called multiprogram laboratories that in the 1970's undertook a broad range of energy R & D projects. These laboratories include the Livermore, Los Alamos, and Sandia weapons laboratories and the Argonne, Brookhaven, and Oak Ridge national laboratories. The multiprogram laboratories employ more than 50,000 people, about half of whom are scientists, engineers, and technicians. Their operating budgets were about $2 billion last year.

At the hearings the subcommittees gave special attention to two questions. Have the national laboratories enjoyed a privileged position that has resulted in the unfair distribution of energy R & D funds at the expense of industry and the universities? Have these laboratories been effective in transferring the technology they develop to industry?

Arthur M. Bueche, General Electric senior vice president for corporate technology and chief consultant on science and technology for the Reagan transition staff, made a bid for a substantial shift of energy R & D to universities and industry. He said that in the energy sector there is a strong private industry structure and tradition for conducting R & D and commercializing the resulting technology through operation of the market system. Federal involvement is warranted in cases of long-term projects and high-risk technology deemed important to the nation. Such activities, however, should be carried out in cooperation with universities and industry "rather than [under] unilateral direction by government alone."

Bueche objected to industry's shrinking share of federally funded energy research. He cited data that show that in 1974 some 64 percent of such research was carried out in industry but that by 1979 the industry share was down to 38 percent.

The gist of his remarks is contained in a closing comment. "In short, I think it's time we take a hard look at these laboratories and begin to think about transferring the work and people to the university campuses and industry where we can produce more of the people we need and where the work can be more expeditiously commercialized."

D. Allan Bromley, a Yale University physicist and president of the AAAS, was less specific than Bueche in recommending changes, but he also came out in favor of a shift in resources. Throughout his discussion Bromley sought to relate the national laboratories to the universities' growing difficulties in training adequate numbers in scientific and technical fields and, particularly, to the serious problem of obsolescence of scientific instrumentation in the universities.

Bromley pointed to friction at the "university-laboratory interface." According to Bromley, "Over the years, complementarity in many areas has changed to a rather unequal, and sometimes unhappy, competition in which university and national laboratory personnel have engaged in precisely the same research but wherein the latter have more time, better facilities, better technical support, fewer distractions, and essentially no competing obligations."

On the question of distribution of funding, Bromley cited figures for the fiscal year 1981 that indicate that DOE operating support for energy R & D for universities was $201 million; in contrast, $736 million went to the national laboratories. He acknowledged that some of the laboratory funds provide services to university users, but he said that his impression was that the universities had been "considerably more severely impacted by budget pressures than have the national laboratories. . . ."

Keyworth made a generally more positive estimate of the performance of the national laboratories and their future contributions, but he mixed his praise with criticism. He noted, for example, that expansion and diversification of the DOE laboratories has been accompanied by "a certain dilution and weakening of purpose and mission."

A single morning of testimony, particularly from witnesses like Bromley and Bueche with self-declared vested interests, cannot be taken as much more than straws in the wind. Nevertheless, with a new governing philosophy in the ascendant, if the review of the energy laboratories that Keyworth promises is carried through, the national laboratories could find themselves in a colder climate when DOE faces the Office of Management and Budget and asks for funds for R & D for fiscal year 1983.—JOHN WALSH


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