

# As the Economy Sinks, 'Bush Doesn't Give a Dam'

by Marcia Merry Baker

"President Bush's record \$2.4 trillion budget for 2005, intentionally or not, continues to strangle ports and waterways, and other important programs of the Corps of Engineers," warns a press release on an Army Corps of Engineers website. The case of the McAlpine Locks and Dam on the Ohio River in Kentucky is the latest example of the Bush Administration's abandonment of economic infrastructure, while it inflates the economy with lunatic annual tax cuts and even suggests replacing the income tax with a regressive Federal sales tax.

By Aug. 22 or thereabouts, the Army Corps hopes to reopen its McAlpine Locks and Dam in Louisville, whose emergency closure for repairs on Aug. 9, in effect, put out of service the entire 981-mile Ohio River Waterway system during a peak shipping season. The sudden closure backed up some 1,800 barges and 120 tow boats; the impact of the closure has been felt throughout the entire Mississippi River transportation system.

The Army Corps has acted throughout this episode with all due diligence, beginning with the precautionary deployment of regular diving inspections of the main McAlpine lock, which identified the cracks in the 40-year-old gate of the main chamber in May. This year's repair incident—the first-ever emergency shutdown of the McAlpine Locks and Dam—is a marker for the general state of disrepair, and worsening dysfunction, of the inland waterway system of the United States, as a direct result of decades of Federal "fiscal restraint" policies blocking maintenance and expansion of vital infrastructure of all kinds in the United States—rail, air, water, public health, etc.

The immediate circumstances of the current Louisville closure make the point. Why is there no back-up lock available? In fact, a smaller, auxiliary lock chamber was in readi-

ness until a few years ago, when it was de-commissioned so that a new, modern 1,200-foot lock chamber could be constructed on its site, to replace the existing lock from 1961. But the go-slow pace of this long-delayed project, whose original groundbreaking and work schedule have been prolonged for so many years by Federal anti-infrastructure policy, meant that metal fatigue in the main, existing lock structure was all but guaranteed—and it caused this month's navigation emergency.

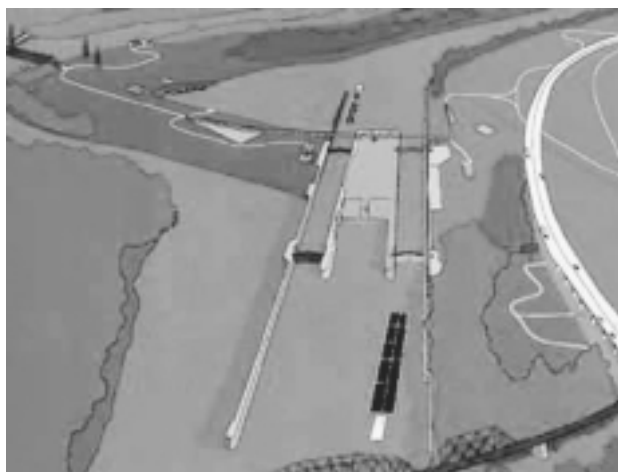
At the present pace, the new lock will not be opened until 2008.

Faced with these austerity-imposed contingencies, the Corps established a program of frequent inspection by divers. Moreover, as of 2001, emergency "stand-by" gates and a gate-lifting crane were installed next to the main lock, in case of a catastrophic structural failure—which the Corps has never had in its history. All this, because of the neo-conservatives' insanity imposed on it, to keep aging systems functioning way beyond their engineering lifespan.

### 'Bush Axes Projects,' Says the Corps

The McAlpine Locks and Dam is only one of 19 structures on the Ohio River "Mainstem," and many others on tributaries—all of which are long overdue for refurbishing and modernizing. "In 2004, nearly a quarter of the lock chambers on the Ohio River exceeded their 50-year design life," stated a Corps press release this June. **Figure 1** shows the general map and "ladder" of locks and dams on the Ohio Mainstem, and the three Army Corps Districts responsible—going downriver from the Ohio's origin: Pittsburgh, Huntington, and Louisville.

The Upper Mississippi/Illinois Waterway installations—



*Shown in the photo at left looking down the Ohio River at Louisville, the Army Corps of Engineers' long-stalled plan to replace the old 600-foot McAlpine Lock (at right center of the photo), with a modern 1,200-foot lock (excavation, center), was delayed so long by funding cuts, that metal fatigue in the old lock's wall forced emergency closure of the Ohio River since mid-August. On the right is a schematic of the new lock, this time looking upstream. Nationally, neglect of water infrastructure is "close to catastrophe," says the Army Corps' director.*

37 dams and locks on a 1,200 river-mile system—are even in worse shape than those of the Ohio. Refurbishing has been discussed, studied, and defended for more than 15 years, without getting Congressional approval. A get-started measure is now before Congress, but no action is assured (**Figure 2**).

Not only capital investment funds, but simply Army Corps "M and O"—maintenance and operation funds—are being cut back so deeply that mass staff layoffs are taking place in many Corps districts. Forced by the Administration's proposed cutting of \$9 million from its Fiscal 2005 budget, the Corps of Engineers-Pittsburgh District is implementing a plan that will slash about 270 locksmen's positions—about one-third of the 790 "full-time-equivalent" positions in Fiscal 2003. Layoff notices are to be issued in September, with employees facing official separation from their jobs by mid-November. The Pittsburgh District, one of seven in the Great Lakes/Ohio River Division (which is one of eight divisions nationally), maintains and operates 23 locks and dams and 16 reservoir projects, and oversees 42 local flood-protection projects, in western Pennsylvania, eastern Ohio, southwestern New York, northern West Virginia, and western Maryland.

The job cuts mean only one lockman will be on duty at each facility, instead of having two lockmen per shift, forcing waits of up to several hours—assuming river traffic is not shut down again to repair more cracked gates—and delaying shipments. At the Pike Island Locks and Dam in West Virginia, for example, a total of about 107,000 tons of products such as coal, steel, and petroleum pass through the facility each night, with 14-16 lockages daily.

Other waterways are "in the same boat." The very newest part of the national inland system, the Tennessee-Tombigbee

Waterway network, completed in 1985, also has problems resulting from deferred maintenance, even if the structures are newer. The Tenn-Tom Waterway website ([www.tenntom.org](http://www.tenntom.org)) features a press release, headlined "Bush Axes Corps Projects" (quoted at the outset above). "The proposed \$22.4 million do not provide for an estimated \$1.54 million of additional funds needed for the closure and repair of three locks [on the Tenn-Tom] this Fall"—the story is a familiar one nationally.

"Bush doesn't give a dam," commented Lyndon LaRouche, on the eve of the Louisville Aug. 9 closing. He was referring to how the aging and accident-prone condition of U.S. waterway installations is a direct result of decades of Federal government neglect of infrastructure, pushed to the extreme in the last three years of the Cheney/Bush Administration.

### Cheneyacs Plus Ecology Maniacs

Since 2001, the Administration has proposed drastically reduced funding of the Army Corps for civil works (see box). Moreover, the Corps faces extreme *uncertainty* about the too-little funding it gets, not knowing year to year, or even, now, month to month, what to expect—whereas engineering reality demands a multi-year, even multi-decade horizon for infrastructure projects. What the Corps can spend beginning this Oct. 1 is not known; and a special authorization bill to fund the beginnings of replacement of aged locks on the Upper Mississippi/Illinois Waterway is stalled.

Working in dangerous tandem with the no-infrastructure, deregulation, and corporate looting policies of the Halliburton-Enron White House, are wealthy "environmentalist" groups whose policies are the flip side of those of Cheney's



*LaRouche in Louisville: "Bush doesn't give a dam," he charged on the eve of the Louisville Aug. 9 closing of Ohio River traffic. The aging and accident-prone condition of U.S. waterway installations is a direct result of decades of Federal government neglect of infrastructure, pushed to the extreme in the last three years of the Cheney/Bush Administration.*

*LaRouche was in Louisville in May, when the contract to repair the McAlpine Locks and Dam was left unfunded; labor leaders questioned him on the matter. He called for full funding of water management projects both to meet water, navigation, and environmental needs, and to produce electrical power, of which the nation is running short under deregulation. LaRouche also proposed mass production of small, next-generation nuclear plants for power and desalination.*

Energy Task Force. The Nature Conservancy oligarchs and the American Rivers Alliance lobby as "dambusters"—the name of American Rivers director Andrew Fahlund's favorite movie. On Nov. 30, 2003, the Nature Conservancy issued an anti-infrastructure report on the Upper Mississippi (partly funded by the EPA), which called for restoring 47 sites to their "natural" (i.e., regularly flooded) state. The Upper Mississippi flooded disastrously in 1991 because it *lacked* the flood-control infrastructure built by the Corps on the Lower Mississippi.

The American Rivers outfit put out a July 21 release promoting its "solution" to no infrastructure funding: "More than 145 dams have been removed [in the United States] since 1999. . . . This promising trend is the result of two converging developments—a growing appreciation of the ecological benefits . . . and the aging of much of the nation's dam infrastructure."

### **LaRouche: Build Up the Army Corps**

LaRouche's views on the urgency of full funding for the Corps were communicated by *EIR* to the Corps' Briefing Ses-

sions, held in June in the Mississippi Valley and Washington, D.C., to take public comment on its proposed "Preferred Integrated Plan" for improvements in the Upper Mississippi. This outlines a program to replace 7 of the 37 locks and dams, and thence proceeding to the rest over the next 50 years. *EIR* testimony to the House Subcommittee on Water Resources and Environment of the House Committee on Transportation and Infrastructure—which held a June 24 hearing on the Upper Mississippi proposals—presented LaRouche's proposal "to unleash the Army Corps for its original mission, to build internal improvements—and to assist nations internationally in the same task."

The testimony reported LaRouche's stress on the special character of the Army Corps and its work; namely, its potential role in *training youth* for skilled employment. On an international webcast Oct. 22, 2003, LaRouche discussed his perspective (in answer to a question related to restoring the draft): "Despite our healthy abhorrence of war, national military service is an integral part of citizenship in a functionally sound republic. The urgent need for building up the Army Corps of Engi-

neers at this time is a relevant example. We have a social problem of first magnitude of importance among the generations of young Americans who have little or no qualification for the kind of productive employment in which they could expect to support a normal family household. In Franklin Roosevelt's time, we attacked this kind of problem with the quasi-militarized Civilian Conservation Corps. . . . Our experience with World War II war-time selective service, when combined with the experience of the CCC's, shows us the road to transforming presently marginally employable young Americans into a quality of employable labor force needed for a successful national economy recovery effort overall. Since more than half of the economic recovery effort needed today will be in basic economic infrastructure at the Federal, state, and county/municipal level, the combined role of an Army Corps of Engineers with auxiliaries resembling the CCCs, is an obvious leading element of the national economic-recovery process."

At present, the LaRouche Youth Movement (LYM) is on the scene in Louisville and other key Midwestern sites, organizing around LaRouche's *Real Democratic Party Plat-*

*form*, which spells out the principles and programs required for the economy—in particular for water and land infrastructure, and jobs. LaRouche laid the groundwork in August 2002, when the Youth Movement came into being nationally around organizing for an “Emergency November Program for Reconstructing the U.S. Economy” for the mid-term 2002 elections. This focussed on transportation crises in rail and aviation, as well as the waterways. Two years later, the physical economy is even worse; and the LYM is mobilizing to force an historic political shift.

The decaying U.S. rail system can in no way compensate for waterway breakdowns. Coal-hauling is so clogged up on the Western state rail lines that Toledo Edison Co. has already resorted to delivering *60,000 tons of coal by truck* to its generating plant in Oregon, Ohio!

The U.S. commercial air system is even worse than in 2002. For example, as of September, U.S. Airways (originally based in Pittsburgh, as Allegheny Airlines) is ceasing service out of Pittsburgh altogether to many Pennsylvania cities and other destinations. Reading, Pennsylvania, will be back where it was in 1941, with no air service at all.

What is required is an all-out infrastructure rebuilding and expansion drive across all modes of transportation, and other vital sectors. LaRouche discussed this with state legislators and other leaders in trips this past Spring to the Ohio Valley (Louisville) and the Mississippi Valley (Little Rock, Arkansas). There is a strong and bipartisan potentiality among the Congressmen and state legislators of the Mississippi and Ohio Valley regions, for backing obviously overdue waterworks improvements; the leadership of LaRouche and impact of the

## Bush Doesn't Give A Dime, Either

The gross under-funding of the Army Corps of Engineers, and water-infrastructure maintenance and construction more generally, is the result of the Bush Administration's lack of interest in infrastructure, as well as conditions in the Congress. The Administration's Fiscal Year 2005 budget for the Corps represents the fourth year in a row of decline. In Fiscal 2001, the Corps budget was almost \$4.7 billion. In Fiscal 2005, the White House is asking for just under \$4 billion, a decline in numerical terms of 15%, but which would actually be greater if inflation were factored in. Yet, while the Bush Administration is unwilling to expand maintenance and construction on America's waterways—with the huge jobs creation potential that would represent—it's more than willing to spend an amount greater than the Corps' budget, *every month*, for the war in Iraq.

The situation in Congress is only marginally better. While most members of Congress express strong support for the Corps' civil works program, they run up against the constraining factors of the budget process itself. This was reflected in the Congressional debate on the Energy and Water Development appropriations bill on June 25. That bill boosts the Corps of Engineers' budget to \$4.8 billion, but still doesn't meet the needs of the country. Rep. Peter Visclosky (D-Ind.), the ranking Democrat on the Energy and Water Development Appropriations Subcommittee, noted that while the bill boosts the Corps budget “well above the ridiculously low request of the President,” it is

still only 2.6% above the Fiscal 2003 budget. “Clearly, this increase is below the level of inflation,” he said. He warned that without a “transforming increase” in the funding provided to the Corps as well as the Bureau of Reclamation, “completion of construction and maintenance projects and studies will continue to take too long and major new projects will languish.”

Visclosky's warning is likely to come to pass. Under the currently existing budget process, spending—including on necessary economic infrastructure—is restrained in a budget resolution dictated by the House Republican leadership and written by the House Budget Committee. The House Appropriations Committee can only change spending targets within the rules dictated by the budget resolution.

In the Senate, meanwhile, a spending bill has not even come out of committee, and because the budget process has completely broken down with partisan and intra-Republican warfare, the likelihood is that the Corps of Engineers budget could end up getting buried in an omnibus appropriations bill—although when that will be accomplished, is anybody's guess. The Senate Environment and Public Works Committee has managed to write a water resources development authorization bill, which it passed on June 23, which provides for numerous projects for navigation, flood control, and eco-system restoration. Among these is an authorization of \$730 million to replace five 600-foot locks on the upper Mississippi River, and the Illinois Waterway, with 1,200-foot locks, as well as numerous capacity improvements for harbors and shipping channels from Alaska to Connecticut. It also de-authorizes numerous projects authorized in earlier years but never funded—again, reflecting the problem inherent in the Congressional budget process.—*Carl Osgood*

FIGURE 1



Source: U.S. Army Corps of Engineers.

*The locks and dams of the Ohio River Mainstem, of which, the Corps reports, “a quarter . . . exceeded their 50-year design life” in 2004.*

FIGURE 2



Source: U.S. Army Corps of Engineers.

LaRouche Youth Movement that is critical to force a political break-out—including in the Kerry camp.

Sen. Kit Bond (R-Mo.) is sponsoring a bipartisan measure to authorize \$3 billion, including \$1.56 billion for the seven new lock replacements on the Upper Mississippi/Illinois. Bond notes that this in itself would create 48 million man-hours of construction work. Kentucky, Indiana, Ohio, Pennsylvania, West Virginia, Illinois, and all the states of the Great Lakes/Ohio District of the Army Corps, and of the Mississippi/Missouri Valley, have seen plunging economic activity in recent decades, along with the neglect of their infrastructure base. Outright poverty rates are rising county by county in these states (see below).

In Kentucky itself, 39,400 manufacturing jobs were eliminated from 1999–2003, a 13% drop from 309,000 down to 269,000. Factory shutdowns are occurring throughout industry, from heavy to light processing. The number of workers in the Kentucky apparel industry, for example, fell 70% in the past 13 years, down from 32,200, to under 8,900 and still falling. The other states have similar losses. Ohio alone lost 173,100 manufacturing jobs from 1999 to 2003, in a 17% drop from 1,027,000 down to 854,500.

### ‘Mighty Close’ to Disaster, Commander Warns

After the crack in the McAlpine Lock miter gate was discovered by inspection divers in May, the Corps mobilized the construction crews and materiel to make the repair as rapidly as possible. Shippers were given June and July to make contingency arrangements.

FIGURE 3



Source: U.S. Army Corps of Engineers.

*Most of the dams and locks on the Upper Mississippi system were built between the 1930s and 1950s; nearly all are beyond their engineering life, and represent now-obsolete technologies. Legislation sponsored by regional Congressmen to allow the Army Corps to start replacing just seven of these with modern dams and locks, has not been acted on.*

Corps officials worry that the Aug. 9 McAlpine shutdown is a harbinger of worse to come. "I'm concerned about the water resources infrastructure in this country," said Maj. Gen. Carl Strock, the new commander of the Corps. "We have not yet had a catastrophic failure of a Corps of Engineers project, and that, for us, is the Holy Grail. But I'll tell you what, we are mighty close. We are running closer and closer to that risk every day."

Strock spoke of the timing of the repair. "Our engineers wanted to shut down the river much earlier, but we made a very deliberate risk assessment, how far we could possibly push that off to allow industry and the river users to respond and build stockpiles, and work around the closure." He referred to the many contingencies; for example, the coal moved on the Ohio for thermal generating plants. "If you shut down the Ohio River [without advance preparation], the Northeast grid goes down because all the coal-fired power plants in that valley depend on the steady flow of coal—a flow that cannot be met by rail or truck."

A July 21 report, "Interim Study of the Effects on the Economy of the Upcoming Emergency Closure of the McAlpine Lock," concludes, "This disruption to the economy from closure of the McAlpine Lock is a direct result of inade-

quate funding over several decades of maintenance and modernization of the vital national resource—the inland waterways system."

The map in **Figure 3** shows the main routes of the 12,000 miles of navigation channels, which are the responsibility of the Army Corps along with other water/land management purposes—flood control, dams, diversions, levees, hydro-power, recreation, ports, and so on. Nationwide, of the 240 active inland waterway lock chambers, 113—or 47%—are 50 years old or more, past their engineering lifespan. Some are 70 years old or more. These are associated with the inventory of more than 425 major dams for which the Corps is responsible.

In turn, these Army Corps dams are only a subset of a national U.S. inventory of over 85,000 dams of all sizes. The Corps dams are usually large, "downstream" structures on major rivers, while thousands of other dams are in upper watershed streams—such as those built decades ago for water control and land reclamation, in conjunction with the U.S. Department of Agriculture. Then there are town reservoirs and waterworks, recreational lakes, state navigation systems, and all manner of dams for flood control and other purposes. Thousands of these structures in the national dam inventory are in the same need of repair and upgrading as the major Corps dams.

An event on the Kentucky River, a tributary of the Ohio, earlier in August, makes the point. A dam abutment gave way, under flood pressure, and now there is the urgent question of how to pay for, and carry through with repairs by the Kentucky River Authority, on behalf of the 710,000 people resident in the river basin, including those in the state capital of Frankfort (see below).

## Ohio River System

From Pittsburgh—where the Ohio River originates at the confluence of the Allegheny and Monongahela Rivers—to Cairo, Illinois, where the Ohio joins the Mississippi, is a corridor of some 981 miles in which navigation improvements were built at various stages during the past century. Figure 1 shows the "ladder" of locks and dams along the mainstem. More than 275 million tons a year of commodity shipments are carried on the Ohio system. Upgrades of all kinds are needed at both mainstem structures, and along the significant network of tributaries, for example, the Monongahela.

Yet under the go-slow, or even no-go Federal policies, years of studies are dragging on. Currently in effect is the Ohio River Mainstem System Study—a look at forecasting river usage and what should be done. It is hobbled by Congressional mandates to delimit its "scenarios" of future needs; and by presumptions of whether coal—a commodity accounting for 50% of the present annual tonnage along the waterway, should or should not be the metric for deciding what locks to upgrade. Another 10-year study has been under way, in which the first draft report is due out for public comment in Novem-

# Decrepit U.S. Dams Are ‘A Recipe for Disaster’

by Mary Jane Freeman

Kentucky’s dam woes are not limited to the Ohio River network. On Aug. 5, the Kentucky *Herald-Leader* reported that the abutment wall to Lock and Dam 3 on the Kentucky River collapsed. The Kentucky River Authority plans a \$200,000 emergency fix. Spring floods are blamed for the wall’s wash-out, but the dam’s age cannot be discounted as a factor. It is a timber structure filled with rocks and covered with concrete, built in 1842 and refurbished in 1882! If it fails, it will threaten Lock and Dam 4, which holds the water supply of the capital city, Frankfort.

There are 14 locks and dams on the Kentucky River, most of which were first built in the early 1900s. About 710,000 people live in the Kentucky River Basin and depend on it as their water source. Funding for renovation and rehabilitation is nearly at a standstill, making a disaster waiting to happen.

Over 78,000 dams comprise the backbone of America’s water infrastructure. Only a fraction of these are run by the U.S. Army Corps of Engineers. Dams facilitate billions of dollars of commerce to flow from, and into, the country; provide flood control; and supply water for drinking, crop irrigation, industrial use, hydroelectric power, and recreation. But budget cuts on the Federal, state, and local level, combined with the obsolescence of sections of this vital infrastructure, put more and more of the network at risk.

Were the United States to launch a “Super-TVA” type project and re-establish itself as a producer nation, as *EIR* founding editor and economist Lyndon LaRouche has called for, portions of this network would collapse under the stress of increased use.

Non-Army Corps-controlled dams make up the bulk of dams which are run by local and state governments or private interests. Over 58% of all dams are privately owned. Private owners rarely have the means to maintain or rehabilitate these structures—many of which are at or past their 50-year life span. Costs have increased due to: a) the aging process, now requiring substantial renovation in many cases; b) population growth and development downstream in former rural areas; and c) new safety regulations. States and local governments hit with collapsed tax revenues and cuts in Federal aid, often put off making such expenditures, ultimately costing more in lost revenues, damage to property, and loss of life.

## Bush’s Deep Cuts Create Risk

The American Society of Civil Engineers’ 2003 Progress Report, “Report Card for America’s Infrastructure,” reported



*America has 85-90,000 dams in its official inventory. There are the large mainstream—usually “downstream”—dams on major rivers which are almost all the responsibility of the U.S. Army Corps of Engineers, such as the Willow Island Lock and Dam on the Ohio in West Virginia (left). On upstream sites, some 11,000 smaller—“watershed”—dams have been built through the partnership between the U.S. Department of Agriculture and local watershed project sponsors. Shown is a small dam and lake in Tama County, Iowa, with terraces, grass plantings, buffer strips, and other conservation measures.*

that the number of “unsafe” dams increased 23% just from 2001-03, to nearly 2,600 dams. It graded America’s dams “D,” or poor. ASCE estimated that \$10.1 billion over 12 years was needed to improve or overhaul all critical non-Federal dams that pose a risk to human life should they fail. But the Association of State Dam Safety Officials (ASDSO) task force of specialists found that if all U.S. non-Federal dams in need of repairs were upgraded or repaired, the cost would exceed \$36 billion. Dam safety has become a critical issue. ASDSO recognized that financial constraints make dam owners delay maintenance and repairs. “The dangerous combination of aging, neglected dams and rapid downstream population growth is a recipe for disaster,” it argued. Yet funding programs for dam repairs exist in fewer than 12 states. Without strong state support or a national dam rehabilitation loan program, “disastrous dam failures are inevitable.”

The National Watershed Coalition (NWC) adds to these estimates another \$2 billion—\$564 million to rehabilitate 880 dams, and \$1.5 billion for 1,862 unfunded but approved projects.

Fifty years ago this month, President Eisenhower signed Public Law 534, creating a national watershed program which has built 11,000 flood-control dams in 2,000 watersheds across the nation at a cost of \$2 billion, benefitting 62 million people. A follow-on public law, PL 566, was funded at a \$250 million level in the 1970s and 1980s. The funds are part of the U.S. Department of Agriculture’s Natural Resources Conservation Service budget.

The Bush Administration cut the watershed budget to \$107 million in 2002, to \$87 million in 2004, and proposed \$40 million for the 2005 budget. Congress balked, and restored some of the funds to the 2005 budget, appropriating

nearly \$100 million. While better than Bush’s plan, it is still a far cry from what is needed. An important note: For every dollar invested in these programs, \$2.20 is returned in money saved by flood prevention.

Every state except Alaska has hundreds of dams. Failure to spend money for repairs or upgrades has already cost communities greatly.

- **Mississippi:** In March 2004 the Big Bay Lake dam in Lamar County burst, sending 7 billion gallons of water downstream. The earthen dam was 57 feet high and held a 900 acre lake behind it. The flood waters demolished 104 homes and businesses.

- **New Jersey:** After heavy rains in July, 18 dams failed in Burlington County, unleashing their lakes downstream, and sending 800 residents from their homes. More than \$50 million in damages occurred; 26 other dams were damaged; and a Federal disaster zone was declared. Many of the burst dams were overdue for inspection and repair. Statewide, 1,600 dams date back to the early to mid-1900s.

- **Pennsylvania:** Federal funds are needed to improve the antiquated locks and dams along the Monongahela River, which passes through Pittsburgh, transporting such vital goods as coal, steel, and grain. Funds have only trickled in for approved projects; the entire river rehabilitation was to be done by 2004, but is now projected for 2019! If a dam near Pittsburgh were to fail? One example: A tow pulling six coal-filled barges would need its coal load transferred to 275 trucks.

Combined, these organizations put the price tag to upgrade our dam infrastructure at \$40-45 billion over five to ten years. *EIR*’s estimate, factoring in a return of the nation to its leadership in science and industry, is in the range of \$80-100 billion over the same time frame.