

LaRouche PAC to Senate Water Meeting: 'Create' New Natural Water Resources

On April 5, a Water Policy Conference will be hosted on Capitol Hill, by the New Mexican Senators Pete Domenici (R) and Jeff Bingaman (D), to consider new proposals for what should be done to deal with water shortages in the American West. In response to a call for submissions for the Conference, the Lyndon LaRouche Political Action Committee provided a policy document on March 9, excerpted below.

Despite the occurrence of heavy rains in California this Winter, drought persists in the Northwest. This month, Washington State declared a state of emergency. (See article, following). This underscores how urgent it is, to reverse the last four decades of lack of infrastructure building and maintenance to mitigate drought.

Senators Domenici and Bingaman are associated with a bipartisan effort, which last year proposed Federal legislation to get the Department of Energy National Labs—led by Sandia—to pursue how to expand water supplies.

Senate Energy and Natural Resources Committee Water Conference, April 5, 2005

Submitted March 9, 2005 by the Lyndon LaRouche Political Action Committee. www.larouchepac.com. Prepared by Marcia Merry Baker and Franklin Bell.

Executive Summary

Action of the Senators is commendable to convene a policy conference on the crucial matter of water supply and use. We provide the following points of principle, with illustrations, under the topic headings requested, with an overview under **Topic 1**.

Conceptualizing “what went wrong” to lead our nation into water shortages, and what must be done about it, can contribute to a far better understanding of how an economy ought to function—an understanding urgently required to deal with the financial and economic breakdown underway. Specific recommendations have been made in detail in a water sector analysis appended to “Science and Infrastructure,” by Lyndon LaRouche (*EIR* Special Report, *LaRouche's Emergency Infrastructure Program For the U.S.*, November, 2002). These and others will be in a forthcoming book, *The Earth's Next 50 Years* (April, 2005), by LaRouche.

Topic 1. Water Supply and Resource Management Coordination—'Natural' Resources Are Man-Made

The water shortages associated with the recurrent droughts in the Pacific, Southwest and High Plains regions of the continental United States are not “natural” in the sense of being pre-determined by limited resources. Had modern infrastructure been implemented in these vast western drylands—hydraulic plans which were ready to go as of the 1960s—the water shortages and trade-offs would not now be happening. After all, the “Great American Desert” is the historic name for the multi-state region of the West, crossing over into Mexico, defined by the isoline of 500 millimeters of average rainfall running north-south through the High Plains. The North American arid West was a challenge for the nations of Canada, the United States and Mexico from the start.

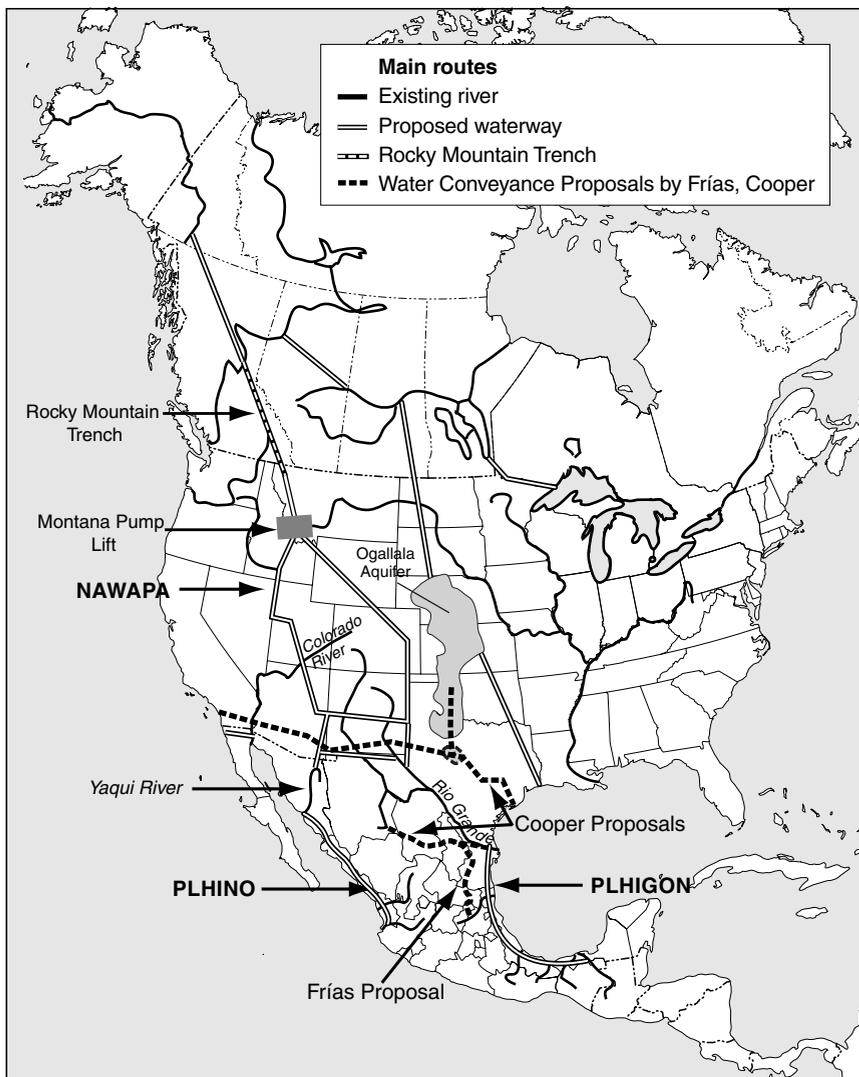
As of mid-20th Century, plans for nuclear-powered desalination of Pacific Ocean water, and of inland brackish underground waters were widely known. And the large-scale continental water transfer plan called “North American Water and Power Alliance” was ready to go. These and related programs would by now have been supplying ample new “natural” water resources for the region, had they not been dropped under pressure from financial policy circles opposing such infrastructure-building.

Figure 1 shows the North American Water and Power Alliance (NAWAPA) proposal of the 1950s/1960s, backed strongly by former House Speaker Jim Wright and a contingent of other leading Congressmen. This project, developed by Parsons Co. of California, diverts southward, some of the plentiful northern continental waters of the Alaska and MacKenzie systems, now flowing into the Arctic. Though extensive, no extraordinary engineering is involved. If begun in 1970, the project would now be complete, adding over 20% more water to the resource base used by Canada and the United States, and significant amounts by Mexico, plus hydro-power. In the 1960s, analogous, smaller projects were planned in Mexico to divert water northward from the Southern and Western Sierra Madre.

Figure 2 [not shown here—ed.] shows an artist's depiction of a modern seawater desalination facility, proposed for the Pacific Coast of California, using a process of multi-effect distillation (vertically stacked evaporators). This is reproduced from the 1993 Preliminary Design Report 1084, from the Metropolitan Water District of Southern California. The idea is to use cheap, plentiful electricity from “fourth-generation” nuclear plants, as proposed by San Diego, California-

FIGURE 1

North America: 'NAWAPA-Plus'



Source: Parsons Company, *North American Water and Power Alliance Conceptual Study*, Dec. 7, 1964; Hal Cooper; Manuel Frías Alcaraz; *EIR*.

based General Atomics. One nuclear-powered, large-scale desalination installation alone could provide 284,000 cubic meters daily. This is enough to provide roughly half of all the daily water used by greater metropolitan San Diego.

These projects would obviate the current recourse to shifting water use from Imperial Valley agriculture, to San Diego urban needs. However, modern water-manufacturing projects have been stalled by the past 30 years of globalization, outsourcing, and economic shrinkage. Instead of new “man-made” water resources and associated economic development, the last 30 years has seen less economic activity, and with it, destructively diminished water use.

Figure 3 shows the results of what the nation has done, instead of continuing the kind of water-project work con-

ducted during the Franklin Delano Roosevelt New Deal programs, and under the Army Corps of Engineers. The volume of water use has declined in industry, power generation, and farming. The amount of irrigated agricultural land has shrunk. Everything except urban and residential use of water has gone down. We now, in effect, import industrial water, in the form of goods we no longer produce; and we import water in foods we no longer produce. Annual water used in the U.S. economy, on a per capita basis, dropped to 1430 gallons per day (gpd) in year 2000, after having peaked in 1975 at 1941 gpd. Thus, the nation’s total water usage has dropped, even while the population has grown. That does not come primarily from the second brick in the toilet tank. It reflects less activity in the economy over the past 30 years of outsourcing. Less steel produced. Less agriculture.

Topic 2. Role of the Bureau of Reclamation in the 21st Century—Restore the Original ‘American System’/ FDR Mission

It has been over 100 years since the founding of the Bureau of Reclamation by milestone legislation in 1902, mandating the Federal government to play a role in land improvements. Today, though the Bureau’s tasks may differ, its mission of serving the public good should not be changed or lessened.

“American System” was the term applied for the practices and policies of the United States economy in the 1800s, as laid out by the thinking of a number of policy leaders, from Alexander Ham-

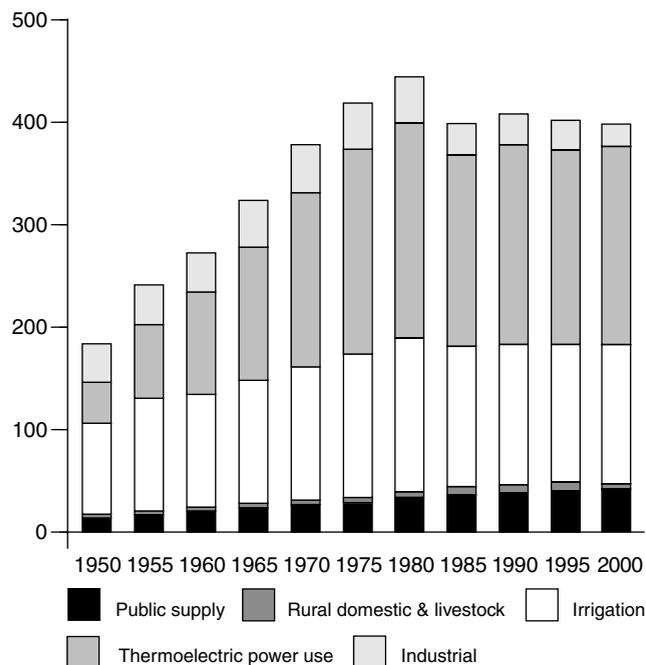
ilton, the first Secretary of the Treasury, to Henry Carey, Abraham Lincoln’s economist, and figures of the 20th Century. The creation of the Army Corps of Engineers, the Bureau of Reclamation, the U.S. Geological Survey, and certain other agencies and sub-agencies, is part of the institutional reflection of the central concept that the Federal government has a responsibility to see to resources and infrastructure—water, land management, transportation, energy, etc.—on behalf of the general good.

The Bureau of Reclamation is a classic example of how government intervention has literally created the soil and land resource base of the United States. It is relevant briefly to review the earliest decades of the Bureau, which oversaw—in cooperation with local, state, and other Federal agencies—

FIGURE 3

U.S. Water Usage, Total and by Sector, 1950-2000

(Billions of Gallons Per Day)



Source: U.S. Geologic Survey.

providing drainage or water supply improvements, so that large areas, previously hostile wilderness, could be made available for farming, residential, industrial, and recreational use. Millions of acres of irrigable land were brought into cultivation. An even greater area of swamped acreage was drained, especially in the central states of the Middle-Mississippi Basin, opening up vast lands for cultivation and settlement. Thousands of miles of tiling were laid.

Related Bureau functions were carried out over the years, in cooperation with other Federal agencies. In 1935, the Soil Protection Act was passed. Following War II, the Agriculture Department was mandated, in partnership with local entities, to build a network of thousands of smaller, upper watershed dams and installations for proper land management. The Army Corps functioned alongside Reclamation, for flood control.

From this brief retrospective, two functions of the Bureau for the present century are underscored: 1) A vast amount of infrastructure maintenance and expansion are needed. For example, thousands of upper watershed dams are long overdue for rehabilitation—technically, a USDA purview, but in parallel with Reclamation. The Bureau itself has direct responsibility for infrastructure projects that, because of budget cuts, have gone neglected to the point of near dysfunction. 2) New tasks of protecting soil fertility, countering salinity, and

many related land management functions, are necessary for the Bureau of Reclamation to carry out.

Topic 3. Indian and Federal Reserved Water Rights—Implement a ‘Super-TVA’ To Expand the Resource Base; End the Fiction of ‘Conflict Resolution.’

The role of the Federal government today lies in urgently resuming its responsibilities for the provision of proper ratios of water and other infrastructure per capita, and per unit land area, for all people; and in this context, special considerations for historic legacy regions can be provided. It is vital to understand that the very same financial and media interests organizing opposition to infrastructure-building for the general good (nuclear-powered desalination, large-scale water conveyance systems such as the North American Water and Power Alliance, etc.) have likewise been backing “conflict resolution,” and litigation over shortages as the only so-called solution to scarce water and other resources. Cynically, they know it is no solution at all.

These anti-infrastructure networks are especially venal when it comes to cynical treatment of the rights of Indian Tribes, which, as a group, have been made to suffer for want of the very means to existence. No amount of “rights”—fair or unfair—to resources deliberately made scarce through lack of infrastructure, are going to aid Indians or any other peoples. Instead, new infrastructure projects and new supplies of utilities and resources must be set in motion. In that context, any interim “sharing” or apportioning of rights can be worked out equitably, including giving first priority for jobs, schooling, housing and other basics to Indian and any other designated groups.

A “Super-TVA” approach (what’s required in this regard) is the name given by Lyndon LaRouche in a 2003 economic development perspective for the multi-state cross-border region of northern Mexico and the Southwest United States. With vast new supplies of power and water, along with a modern transportation system, the seven states of the United States, and six states of northern Mexico—all located in the Great American Desert—would constitute a new development zone, where its current population of only 86 million people (including 34 million in California and 21 million in Texas) could increase many times over, as new economic activity locates in the once-desolate desert areas. This would be real development, not *maquiladora* slave-labor operations. This new type of development would absorb Mexican labor into working in high-productivity jobs, rather than fleeing across the border into the United States in search of survival. Millions of new high-skilled jobs would be created, and new towns arise. (This development plan is available on www.larouchepac.com.)

Topic 4. Conservation and Technological Developments—Resume Nuclear-Era High Technology.

The proposal of water “conservation” in the name of policy, presented as the response to water scarcities created by

four decades of lack of water infrastructure development, is not a serious proposition. It is either stupidity, or deliberate sabotage of nationally-needed infrastructure development. Once that mistaken idea is cleared away, the questions are posed as to: What can new, advanced technologies do, in terms of creating new, expanded water supplies? Taken from this point of view, the thrust of the 2004 proposed legislation sponsored by Senator Domenici, (co-sponsored by Senator Bingaman) is in the right direction [“Department of Energy National Laboratories Water Technology Research and Development Act,” S. 2658, 108th]. Two exemplary technologies make the point about what kind of R&D should not only be furthered, but backed for implementation:

- Fourth-generation nuclear power plants. Given the many advances in salt water desalination technologies, the limiting factor for creating vast new supplies of desalted water, is simply inexpensive, ample power. In turn, this can be solved by a full-scale nuclear power construction program, with implementation of the technical advances made over the years despite cessation of new nuclear plants.

Figure 4 shows a cutaway view of the General Atomics proposal of the “GT-MHR”—an underground, high-temperature gas-cooled nuclear reactor. Its inherent features make meltdown impossible. It is the “pebble-bed” design, named for its use of small, round-sized fuel pellets. The tiny fuel particles are encased in ceramic spheres, which serve as mini-“containment” housing for the fission products. The diagram here shows a design for a 285 MW-e power plant (600 MW thermal).

- Electron-beam wastewater treatment. Another nuclear-era technology, which has been proven in Miami, Florida, is the use of electron beams to treat wastewater, for the purpose of recycling dirty water back into use as safe and fresh water supplies. Over the 1980s, the Drinking Water Research Center, at the Florida International University, built a working plant, using focused electron beams to treat waste water falling over a weir, successfully, to create clean water. (See International Desalination Association, *Advances in Nuclear Science and Technology*, Vol. 22, New York; Plenum Press, 1991.)

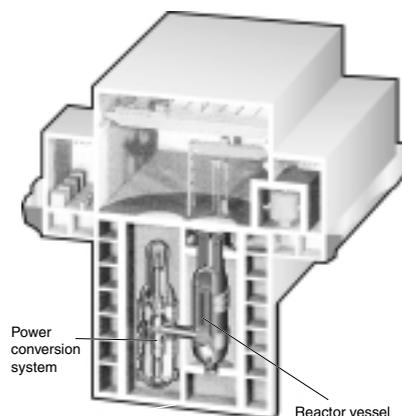
Topic 5. Knowledge of Water Resources—Assay the Earth, ‘From The Future’ and From Outer Space.

Because of satellite technology, and related computer-assisted mapping, the continued updating of the patterns of deposits of minerals, water, and resources of all kinds is not only possible, but limited only by the degree to which this R&D is applied; and by the conceptualization of those using the technologies.

Topic 6. Drought—Base National Strategy on Nuclear Technology and Large-Scale Projects.

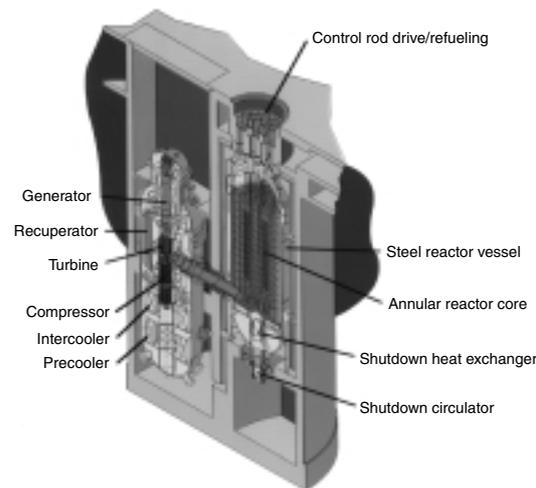
“Privatization” of water supplies—asset-grabs by global corporations and their controllers—will not overcome our water shortages. Nor will the various “share-the-thirst”

FIGURE 4
Cutaway View of the GT-MHR Reactor and Power Conversion Systems



This is the current design for a 285 MW-e power plant (600 MW-thermal), and shows how the layers of hexagonal fuel elements are stacked in the reactor core. The helium gas passes from the reactor to the gas turbine through the inside of the connecting coaxial duct, and returns via the outside.

The reactor vessel and the power conversion vessel are located below ground, and the support system for the reactor are above ground.



Source: General Atomics

schemes that pit, for example, downriver navigation versus upstream recreation, and urban household needs versus agricultural irrigation and industry.

The call for a National Drought Strategy, if taken as a call to action to resume advanced R&D, and large-scale infrastructure-building, will provide benefits not only in terms of water supply itself—merit enough to justify such an effort—but at the same time will provide mass job creation, and the basis for current and future economic development. This applies not only to the United States, but to Mexico, and to Canada, in terms of mutually beneficial effects.