

China's Three Gorges Dam Completed Ahead of Schedule

by William Jones

The completion by Chinese engineers of the construction of the massive Three Gorges Dam, earlier than expected and under budget, has defied the catastrophic predictions of its vociferous detractors. The filling of the dam reservoir to its full height, which was scheduled to be accomplished by 2009, will now be completed in 2008. The 606-foot-high dam, which stretches 7,575 feet across the Yangtze, the world's third-longest river, has long been the target of the radical environmentalists. Now, with the world, and China in particular, facing rapidly growing energy needs, both nuclear energy and hydroelectric power have received a new lease on life as the ideal alternatives to oil and coal.

In fact, with the completion of this project, one of the major spinoffs envisioned by Franklin Delano Roosevelt's TVA great project, has finally been realized.

But that hasn't stopped the anti-science "environmentalists" from continuing their idiotic polemics, as evidenced by Al Gore's latest foray into the global warming/climate change hoax, with his film "An Inconvenient Truth." The same week that the last of the cement was poured in the Three Gorges Dam, on May 20, both the *Washington Post* and the *New York Times* ran scare stories on the project, warning of imminent environmental "degradation" as a result of its construction. On June 6, the temporary cofferdam, which was built to hold the waters of the river while the dam was being built, will be taken down, and the walls of the dam itself will then bear the full force of the river.

The dam, with its 26 generators, will produce 85 billion kilowatts of electricity per year, nearly one-ninth of China's present power needs. The size of the dam has broken all records in several areas, not only in height and length. The control storage of the Three Gorges Reservoir is 22.15 billion cubic meters; the flood causeway is 483 meters, with the maximum discharging capacity at 102,500 meters per second, also a record. The two-way, five-step lock is also the most ad-

vanced in the world.

The reservoir will stretch 412 miles back to Chongqing, providing a long, wide, and deep river, rather than a large lake as with most dams. Shipping, which had long been a hazardous undertaking on the often treacherous Yangtze, will be greatly enhanced; the deeper channel will allow larger ships to move up and down a placid river. This will permit even more passenger and freight traffic to traverse this ancient, 6,200-kilometer corridor of commerce and culture.

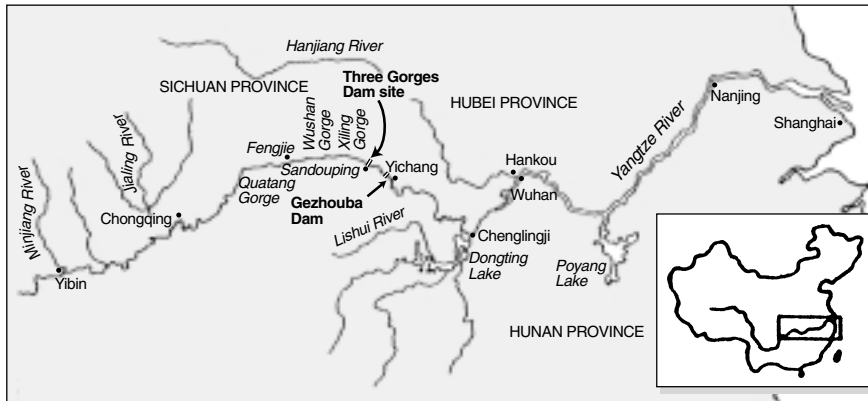
Tremendous Loss of Life in Flooding

But a primary driving force for the decision to build the Three Gorges project was the tremendous loss of life and property caused by regular flooding along the Yangtze River. During the 2,200 years from the beginning of the Han Dynasty to the end of the Qing Dynasty in 1911, there have been 214 floods, an average of one every 10 years. In the 20th Century, there were five severe floods. Combined flooding on the Yangtze and the Han Rivers in 1911 is said to have claimed hundreds of thousands of lives. The great flood in 1931, which took the lives of 145,000 people, inundated an area the size of New York State, submerged more than 3 million hectares of farmland, and destroyed 108 million houses. In the flood of 1935, 142,000 people were killed.

The 1954 flood inundated 48 million hectares of farmland, affected 18 million people, and claimed 30,000 lives. An additional 18.9 million people suffered from flood damage, and the operation of the vital Beijing-Guangzhou railway was suspended for more than 100 days.

Most recently, a major flood in 1996 was followed by an even greater one in 1998, which led to 3,656 fatalities, and affected the lives of 290 million people. In that flood, there were more than 5 million houses destroyed and 21.8 million hectares of farmland submerged. The total economic cost of the 1998 flood for China was \$30 billion. Ironically, the con-

The Yangtze and the Three Gorges Project



The reservoir that will be created behind the Three Gorges Dam will stretch dam near Sandouping, a distance about the length of the Grand Canyon.

tinual development of the Yangtze Basin is increasing the economic cost of such flooding. The 1954 flood, which occurred at a time when the area was still considerably underdeveloped, would today, with the present agricultural and industrial capabilities, cause ten times the amount of damage.

Realizing such a massive project required a great deal more than simply bringing together the materials, the labor, and the technical expertise. The reservoir region behind the dam will inundate 17,160 hectares of farmland, and 3,867 hectares of riverside land will be flooded. It is estimated that 34.8 million square meters of rural and urban houses are below the inundation line. Also, land will be lost to the construction of roads, electricity transmission lines, communications lines, and other infrastructure.

A total of 1.13 million people have been relocated to make way for the project. Many of the dilapidated river towns along the mountainous region which were submerged by the reservoir were replaced by new towns built farther up the slope. Those who couldn't remain in their own districts, were given compensation to relocate in other parts of the country, including large cities like Shanghai where there would be work available. Although this relocation simply accelerates the general move from the countryside to the city, such a massive migration could not be accomplished without some psychological and physical hardship. At the same time, the inhabitants of the Yangtze region are no strangers to such massive migrations of people. The 1998 flood, which killed more than 3,000 people, required the evacuation of 13.8 million people.

Scare Stories Unfounded

Many scare stories have circulated about the amount of refuse which would accumulate in the upper reservoir as a result of the construction, a problem which is inherent in the building of a dam, when the flow of the river is significantly curtailed. Nevertheless, measurements have been taken in the

reservoir waters, indicating that there is no deterioration in the water quality. "The dam area has maintained a sound ecological environment and water in the Yangtze's upper reaches is still up to drinking standards," Xie Xiufa, the senior engineer with the Yangtze Water Resources Committee told Xinhua News Service recently. "Water quality in the Three Gorges reservoir has met the country's surface water standards and remained more or less the same as it was before the Yangtze River was dammed," he said.

In addition, the Chinese government will spend nearly \$5 billion on at least 150 sewage treatment plants and 170 urban garbage disposal centers to prevent water pollution in the upper reaches of the river. The Three Gorges

Project Development Corporation has also spent \$2.5 million on building the world's largest garbage clearing vessel which will help clear up "garbage floats" in the reservoir.

Similarly with regard to important cultural sites along this causeway of 5,000 years of Chinese culture: Many of them have either been moved entirely to other locations or, where possible, preserved in the new environment, even creating islands for the monuments which had previously been on the mainland.

International Involvement and Obstruction

The dam project dates back to a proposal by Sun Yat-sen, the founder of modern China, in 1918. During World War II, engineers from the TVA did feasibility studies for the Three Gorges project. But when the decision was finally made by the Chinese government to go ahead with the project, there was only a modicum of U.S. involvement. The Al Gore faction of the Democratic Party worked vociferously to discourage any farsighted development projects, both at home and abroad. Because of the resistance from the Gore faction, the U.S. Export-Import Bank refused to provide loan guarantees to companies interested in engaging in the construction. Only the more daring souls were thus willing to become involved.

Nevertheless, the success of the Three Gorges project, has created an important precedent for a China with a rapidly growing need for energy. During the next 20 years, there will be 12 hydroelectric mega-bases developed for the production of energy along the Jinsha River in Western China, with an installed capacity of 58.88 million kilowatts, three times the generating capacity of the Three Gorges project. Aware of the terrible environmental cost of its reliance on its abundant coal resources, China is seeking to resolve its energy problems through a rapid shift to hydroelectric and nuclear power development.