

A nuclear threat arises in Cuba:

Castro has resumed construction of dangerous Soviet-era reactors that threaten Americans from Texas to D.C.

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ALEXANDRIA, Va. - While the world is transfixed by the series of underground tests in India and Pakistan, an equally great nuclear risk lies unnoticed and nearby.

Less than 180 miles south of Florida's Key West, Cuban dictator Fidel Castro has recently resumed construction of two large Soviet-designed VVER 440 model V213 nuclear reactors at Juragua in Cuba's Cienfuegos province.

The reactors pose a genuine threat to Americans as far north as Washington and as far west as Texas, according to an array of federal government reports from the General Accounting Office, the State Department, the Energy Department, the Nuclear Regulatory Commission and the National Oceanic and Atmospheric Administration.

As many as 80 million Americans could be exposed to a potentially deadly radioactive cloud if the Cuban reactors were to malfunction, according to government reports and congressional testimony.

The threat is real. Congress recently approved more than \$ 3 million to build and maintain a Caribbean Radiation Early Warning System, a battery of sensors on the Florida, Alabama, Louisiana and Texas coasts.

They will "provide timely data for emergency preparedness in the event of a catastrophic radioactive release," according to congressional testimony by Gene Aloise, assistant director of energy resources at the GAO.

If the worst happens, "the entire United States could be covered with some of the radioactivity," Aloise said.

While most of the world's nuclear reactors are extremely safe and meet stringent government standards, the twin Juragua reactors are different. They are a Greenpeace nightmare.

From the drawing board to the final construction, the Juragua reactors are a case study in how not to build a power plant.

The "design is very different and does not meet Western Safety standards," finds the Nuclear Energy Institute, a trade group that favors the nuclear industry.

The Russians, for their part, have sworn never to build another VVER 440 reactor in their own country. The German government, which inherited four VVER 440 reactors in the former East Germany, considered them so unsafe that it immediately shut them down.

Among the design defects is the containment dome. The protective dome of the almost complete reactor (the second reactor is only one-third complete) is designed to withstand only seven pounds per square inch of pressure. U.S. standards require an ability to withstand at least 50 pounds per square inch.

Other defects: The reactor design has a weak emergency core-cooling mechanism, which would be used to prevent a meltdown, and the emergency cooling system has no backup.

The construction is even worse than the design. Perhaps as many as 60 percent of the Soviet-made parts in the Juragua reactors are defective, according to GAO estimates.

Soviet technicians purportedly warned Cuban officials that the emergency cooling system wouldn't work.

In an extraordinary interview with The Miami Herald, Pelayo Calante, who was responsible for quality control in Juragua before he defected, revealed that the reactor would probably fail if activated.

Vladimir Gervera, who was a senior engineer at Juragua, also defected. He had led the team that X-rayed the more than 5,000 welds on the twin reactors' vast gaggle of fuel cooling and plumbing systems.

Gervera told U.S. officials that at least 15 percent of the welds are dangerously flawed.

U.S. standards do not permit a single defective weld. Once a system is pressurized, the pipes could burst and release toxic radioactive clouds.

However poorly designed and built, the machinery of the twin reactors has only gotten worse.

When construction halted in 1992, the internal guts of the nuclear reactors _ including the reactor vessel, six steam generators, five main coolant pumps, 12 isolation valves and other essential equipment _ were left exposed to the wind and the rain for more than five years. Now they are being put into service.

Even the site is cursed. The Juragua reactors rest on an active earthquake fault line, federal officials believe. A relatively small tremor could have large consequences.

"Should the Juragua reactor be completed and become operational, these issues would increase the threat to public health and safety of Cuba and the Americas," Paul Gurtey, director of reactor watchdog project for the Nuclear Information and Resource Services, told the American Sentinel, a newsletter based in Charlotte, N.C.

The Cubans, who have already spent an estimated \$ 1 billion on the reactors, need an additional \$ 750 million to complete the project. They are about to get the money they need, partly from U.S. taxpayers.

Sergev Shoygu, an official of the Ministry of the Russian Federation for Atomic Energy, told the GAO in 1996 that the Russians plan to extend a \$ 350 million line of credit "to finance the supply of Russian materials to Cuba." Canadian and European governments are expected fund the balance.

Part of the funds will come indirectly from U.S. taxpayers. The International Atomic Energy Agency, which receives almost 30 percent of its \$ 53 million annual budget from the United States, plans to provide almost \$ 2 million worth of equipment and technical support to the Cubans over the next two years.

Florida's senators, Democrat Bob Graham and Republican Connie Mack, are offering legislation to prevent U.S. funds from being used to help the Cubans become a nuclear power, but that's not enough.

The Clinton administration has the tools to halt construction of the reactors. Stepped-up enforcement of the Helms-Burton Act, which punishes foreign companies using confiscated U.S. property in Cuba, could choke off the parts and funds needed to activate the one reactor that is now 97 percent complete.

While the atomic detonations in India and Pakistan consume the president, he ought to consider the nuclear threat from Cuba. He needs to act now.

Richard Minitzer is a writer based in Alexandria, Va. His views are not necessarily those of Bridge News.

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