

OP-ED

Can Russia and Ukraine prevent a new Chernobyl?

By Vladimir Orlov

Just last week a new incident took place at the Chernobyl power plant in Ukraine. Two "technical mishaps" occurred during an international inspection of the plant, where the world's worst nuclear accident occurred eight years ago today.

The latest incident — triggered by a drop in water levels after a short circuit in an electrical cable — rated as the lowest level of nuclear accident. But it came on the eve of an International Atomic Energy Agency saying the plant's continued operation was unsafe.

Tatyana Yagish, a spokeswoman for the state nuclear authority, told Reuters that the timing was "unfortunate."

"It could emotionally influence the inspectors who were here," she said.

On the night of April 25, 1986, the 3,400-megawatt No. 4 unit at Chernobyl was in the midst of a planned experiment. Suddenly the reactor went out of control, and at 1:23 a.m. on April 26, tons of nuclear fuel exploded into the atmosphere.

Radioactive materials were spread to Scandinavia, Germany and beyond. About 116,000 people were evacuated from polluted areas of Ukraine, Belarus and Russia. The accident caused about 30 deaths immediately, according to official reports at the time. Since then thousands have died of causes linked to radiation exposure.

On the basis of the amount of nuclear material released, Alexander Bolsunovsky, an ecologist at the Monterey Institute of International Studies, says the catastrophe was at least "eight to 10 times more dangerous than it was previously thought."

Even Kiev, the capital of Ukraine and home to 3 million people, is still under the shadow of radioactive contamination. There are reports of increased americium-241 content in samples of soil, groundwater and tree trunks. Americium is water-soluble and highly toxic.

Despite the Chernobyl shock, despite the fears of past contamination, former Soviet republics are expanding their nuclear power programs.

"When I look at the future of nuclear power and nuclear safety in the former Soviet Union, I am struck by a paradox of a renaissance of nuclear power programs without (facing) problems of nuclear safety," says Monterey's William Potter, an

expert on post-Soviet nuclear programs. He characterizes the changes in this field as a "remarkable comeback."

Potter cites plans to restart old reactors or build new ones in Armenia, Belarus, Kazakhstan and Lithuania. Russia alone plans to bring 11 new reactors on line by 2005 — including at least one using the same design as Chernobyl.

Almost without exception, Western nuclear specialists say that Chernobyl-type reactors, known as RBMKs, are fatally flawed because of their core physics, to say nothing of the way they are built and maintained. Russian experts also want to see the design phased out as soon as possible.

Why then does the design refuse to die? In part, Potter believes, it's because of short-term considerations of energy production — and because powerful interests are closely linked to the RBMK program.

"All reactors of Russian nuclear power plants of the first generation contain a real and terrible threat to Russia and to the world environment," insists Alexei Yablokov, a top environmental adviser to Russian President Boris Yeltsin. "To improve their safety systems and reach Western standards, Russia needs \$17 billion to \$25 billion. That is, of course, unrealistic."

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Yablokov says Western nations have offered the former Soviet states \$700 million for improving the safety of the old-generation reactors. But Yablokov says "not one cent" of that money will go to making the plants safer. Instead, he says, the money will go to "the Russian military-industrial complex and . . . the nuclear energy lobby, which influences the Russian government and doesn't even know what the term 'safety' means."

Even though the IAEA has recommended shutting down Chernobyl entirely, Ukrainian officials are talking about keeping it open for decades more.

"I agree that the No. 1 unit should be shut down as soon as possible," says Nikolai Steinberg, head of the Ukrainian Committee for Nuclear and Radiation Safety, who spent 14 years at the Chernobyl plant. "But the other functioning unit, No. 3, can work for 30 to 35 years more, and it proved its safety during the 1986 catastrophe. . . . The No. 2 unit, also an RBMK 1000, which is now shut down because of the safety hazard, can start working soon, and the operators of the plant will fight for it."

Steinberg stresses that Ukraine badly needs

nuclear power to help cope with the country's worsening energy crisis.

Insufficient financing — for personnel as well as safer facilities — is the main area for concern regarding the state of nuclear safety in the former Soviet Union.

At Russia's Bilibino nuclear power plant, for example, workers went on a hunger strike to protest low wages. And the average salary of a Russian nuclear plant operator is 10 times that of a Ukrainian operator. That is why about 1,000 Ukrainian operators left for Russia last year, says Ann McLachlan, a Paris-based journalist specializing in nuclear issues. Belated efforts to boost wages have had little impact on the brain drain.

The other side of the problem has to do with the industry's underdeveloped safety culture.

During a visit to Chernobyl, the chairman of the U.S. Nuclear Regulatory Commission, Ivan Selin, recalls being appalled by the sloppiness and clutter at the plant. When he voiced his concern, his host answered sadly, "Our workers will not bend down to pick up an oil-soaked rag from the floor, even though they know that fire is the greatest of all safety risks in a nuclear plant. But if a fire breaks out, like the one here in 1986, those same workers, without a moment's hesitation, will risk their lives heroically — even give their lives — to fight the fire."

No Ukrainian nuclear power plant and fewer than half of the Russian ones meet international safety requirements. It's doubtful that any policymaker would take Yablokov's advice and shut down



the plants. And it's even more doubtful that the safety situation will improve in time to keep yet another crew of workers from having to fight the atomic fire.

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