

Is Soviet culture ready for the nuclear age?

by Criton Zoakos

By and large, if the Kremlin's handling of the Chernobyl nuclear reactor crisis of late April is any indication, the answer to the question in the headline is "No!" If the underlying causes which led to the Chernobyl accident are any indication, the answer, again, is, "No!" From the standpoint of scientific and technological competence, however, individual members of Soviet cultural background, no doubt, can handle the technical and scientific problems associated with the nuclear age. The question for the world community is whether Soviet society, as presently organized, is morally, not technologically, suited for the nuclear age or not.

Given the continuing, near total secrecy of the Soviet government on the worst nuclear disaster in history, only a few facts are certain, respecting the disaster's causes, and its magnitude. These are: The total amount of radiation released as a result of the accident was approximately 5 billion Curies, greater than the amount of radiation from the Hiroshima bomb. Western sensors identified in their measurements not only radioactive iodine and cesium, but also zirconium and uranium, the latter two signifying that meltdown had occurred. According to the Lawrence Livermore Laboratories' emission analysis, "extensive meltdown of the core" had taken place, and "the core is gone."

In terms of the accident's likely causes: The Chernobyl RBMK-1000 reactor, according to Western industry specialists familiar with the Soviet power program, was being overworked, to nearly 7,500-8,000 hours of operation per year, far in excess of the 6,000 hours per year safety limit set by the International Atomic Energy Agency. As a result, not enough time for maintenance and cleanup had been allocated. This particular reactor, using graphite to moderate the burn of the nuclear fuel, has the additional special maintenance requirement that the graphite must, at least once every year,

be cleansed of its "Wigner energy" deposit which regularly accumulates. Moreover, the particular reactor which was destroyed, had only one containment shell—compared to three in American reactors—and lacked most of the redundant, backup safety features characteristic of the American and Western European reactors. Most other Soviet reactors do not have even one containment shell.

But, most critical of all, according to U.S. nuclear experts familiar with this particular Soviet power plant, the Chernobyl reactor that was destroyed was not only producing electricity, but was also producing weapons-grade plutonium for nuclear warheads and, therefore, was using uranium metal and not uranium oxide for fuel. Normally, uranium metal would require even greater safety precautions than the more commonly used uranium oxide.

In short, the immediate causes of the accident, whatever sequence of events the breakdown may have followed, were: a) The reactor was overworked beyond the limits of safety, as a result of Mr. Gorbachov's wartime-style mobilization of the Soviet economy, and, b) the plant was doing double duty as a civilian power and a military nuclear munitions plant.

The specific sequence of events which led to the meltdown of the reactor's core is not yet known in the West, because of the total silence of Soviet authorities. A number of plausible scenarios has been suggested by Western experts familiar with the Soviet RBMK-1000 model, all based on the hypothesis of inadequate maintenance and work overload. The hypothesis coheres with the stated economic mobilization program of both Gorbachov and Marshal Ogarkov. The lack of safety redundancy is also coherent with Gorbachov's campaign against "waste."

There are two striking ironies involved in the Chernobyl nuclear accident. One is that the Soviet nuclear energy in-

dustry in particular had been singled out by Gorbachov and his political cronies as an exemplary industry, in which all problems of "inefficiency," "corruption," etc.—the evils associated with the "Brezhnev era"—had, presumably, been removed with the advent of "new style" leaders installed during the Gorbachov days. The second irony is that the RBKM-1000 model had been singled out by Soviet propaganda as the best, and safest possible, nuclear reactor.

Problems of the Soviet nuclear industry

During late summer 1983, when Yuri Andropov was dying and Mikhail Gorbachov was already organizing his transition to power, some major changes took place in the Soviet Union's civilian nuclear power industry. Beset by major problems during the previous, Brezhnev, years, the industry was targeted to be taken over by the Soviet Union's military interests, under Marshal Nikolai Ogarkov. The military were clamoring that nuclear power generation was not moving fast enough, because not enough nuclear reactors were being produced. In both civilian and military circles, it was already a settled conclusion that most of the country's electricity needs should be met by nuclear power, because fossil fuels should be reserved for exports and hard-currency earnings, with which to finance imports of much needed, military-related high-technology items. Therefore, attention was paid to matters of the so-called Medium Machine Building Industry, which is assigned to manufacture nuclear power reactors. During 1982, when the Andropov-Gorbachov "anti-corruption campaign" was taking off, the campaign against waste in the nuclear industry was taking pride of place in the newspaper *Sovietskaya Rossiya*, the flagship of the Gorbachovian "innovators."

In one of its issues, *Sovietskaya Rossiya* quoted extensively from Nikolai Derkach, construction chief of the Balakovo nuclear power station, complaining bitterly that the work day had been reduced from three shifts to one, and cursing the industry chiefs for the chaos in delivery of materials. One colorful quote from Derkach was: "We ask for 12 millimeter sheet, and they give us 20 millimeter, which is heavier and more expensive. When they give us 12 millimeter instead of 20, of course we can't work. Instead of giving us steel, they're giving us the finger, if you pardon the expression. And as a result, we're violating every normal rule of construction technology."

Some time in 1983, these self-righteous critics replaced the old, corrupt, and inefficient management leadership in the industry, when one Yevgeni Kulov moved from the Ministry of Medium Machine Building, which makes nuclear warheads, to head the new State Committee for the Safe Conduct of Work in the Atomic Power Industry. The Ogarkov-Gorbachov team was already heavily advertising the RBKM-1000 reactor as technology's greatest gift to mankind. The official praise for the disastrous reactor went like this: "Above all, the RBKM-1000—which is the official name of the widely used 'million kilowatt' reactor—has con-

centrated the best attributes and design features of many of the first nuclear installations. . . . We set the task of attaining 1 million kilowatts, of reaching a single standard, of ensuring the series production of energy units and supplying them to power stations under construction. The successful debut of RBKM-1000 near Leningrad proved the effectiveness of our quest. Naturally, this had the rapid effect of reducing the prime cost of new Atomic Energy Stations, since for each of these, there was now the opportunity to take a finished reactor—one did not have to be designed specially for it."

The Soviet economy employs the ill-fated RBKM-1000 reactor as its main workhorse. Besides the one that melted down at Chernobyl, 19 others are in operation—though unconfirmed reports say that their operations have been temporarily suspended after the accident. The last, 11th Five Year Plan envisaged the production of an additional 20 RBKM-1000 reactors.

The planners' principal reason for this choice was that this reactor was designed for relatively cheap serial production: It was deemed "cost effective," and it is Mikhail Gorbachov's centerpiece, upon which his entire ambitious economic mobilization scheme is based.

The matter gives us a unique insight into the nature of Gorbachov's much advertised "Scientific Technological Revolution." As *EIR* pointed out early on, this "revolution" of Mr. Gorbachov is a poorly disguised military mobilization of resources designed to place the Soviet Union within a margin of strategic superiority from which it can safely launch a nuclear first strike against the United States during the 1988-1992 interval. The principal characteristic of this wartime economic mobilization is the forced introduction on a large scale, of energy-intensive, labor-saving industrial processes and techniques. Without a large increase in the availability of industrial electricity, the Gorbachov plan cannot work.

In turn, without the ill-fated RBKM-1000, the Soviet planners do not seem to have the means of fueling their industry with the amount of electricity required by the Gorbachov plan of military mobilization.

model was selected by the Russians because it enabled them to "cut corners," and economize on resources needed elsewhere in their mobilization plan. Had these planners envisaged the possibility of a nuclear disaster such as the one which occurred, and decided to take the risk, given their strategic priorities?

The question is easy to answer: The RBKM-1000 does not meet the safety standards of the International Atomic Energy Agency. If, in the near future, the Soviets continue to refuse to submit to standard international inspections of their nuclear power plants, it means that they decided to go ahead with this reactor despite the horrible risks involved. If they abandon this reactor design, then, for the next five years down the road, they not only will be unable to fuel the Gorbachov economic mobilization plan, but will be faced with the immediate prospect of a net reduction of their available electricity by about 6-8%.