

for repairing, modernizing, and reconstructing 19,000 kilometers of track which "service the overwhelming portion of freight transport between the CMEA countries," and the program is, as the Soviet Foreign Ministry so politely phrased it, "at joint expense." Of the 19,000 kilometers, 2,000 are being double-tracked, 7,000 are being equipped with automatic switching and track control, 6,000 are being electrified, and 9,000 being reconstructed.

Of the 18 major rail lines involved, 14 are east-west truck lines and all have primary military significance, for obvious reasons. The east-west lines being rebuilt and reequipped include 1) the line from Kiev through the Western Ukraine, Southern Poland (south of Warsaw and Lodz) and crossing into East Germany between Forst and Falkenberg, 2) the line from the iron ore center at Krivoi Rog in the Ukraine through Lvov to the Hungarian capital of Budapest, and 3) the line from Krivoi Rog to Prague.

The massive rail program is paralleled by a military priority Comecon highway program, also being built at predominantly East European expense, according to Soviet specifications.

The following item appeared in *Neues Deutschland* Dec. 19, 1983: "Bratislava, C.S.S.R.: The first phase of a new two-deck combined rail and highway bridge over the Danube, is 24 months ahead of schedule. One rail track and two highway lanes on the bridge, 460 meters long, are now open to traffic. . . the bridge is part of the CMEA's 'Trans-European Transport System.' [emphasis added]"

Nothing in the East bloc gets built 24 months ahead of schedule unless it has top military priority, and that's obviously the case concerning both this particular bridge and the "Trans-European Transport System" of which it is a part. To quote the Soviet foreign trade minister concerning this program:

The program consists of four new main highways with a total length of about 9,000 kilometers: Berlin-Warsaw-Moscow, with a length of 2,000 kilometers; Rostock-Berlin-Prague-Budapest-Bucharest-Constanta, with a length of more than 2,000 kilometers; Danzig-Warsaw-Katowice-Bratislava-Budapest-Timisoara-Turnu-Severin-Craiova-Calafat-Widin-Boevgrad-Sofia, a length of 2,500 kilometers; and Moscow-Kiev-Kishinev-Bucharest-Sofia, a length of 2,500 kilometers.

In cooperation in activities of this kind, it is the norm that the reconstruction of roads and the accompanying installations, that each country meets the entire cost and labor at its own expense for the stretch of road to be built on its territory. At the same time, however, questions such as the category of road and the schedule of construction are to be centrally decided [by the Russians]. Thus, uniform highways will be built, based on a unified technology.

Such is the colonial policy of the modern-day Sparta.

Military scales down

by Clifford Gaddy

Although the Soviet Union built the world's first nuclear power plant (1954), and especially during the 1970s talked a lot about an ambitious program of nuclear-generated electricity, that program never really got off the ground. The marshals, it seems, were never really persuaded of the merits of the "peaceful atom." Requiring a centralized energy grid and major investments in large units, the nuclear program ran counter to the military's preferred scheme of a network of small, decentralized energy plants; for that reason the marshals opposed the nuclear energy option from the beginning.

The Soviet energy sector is a case study corroborating the thesis of the Soviet General Staff that when the interests of the military collide with those of the civilian economy, it is the military considerations that take precedence even if that means an economic loss.

In 1970 the official plans for the domestic nuclear power program of the Soviet Union called for an installed capacity of over 50 gigawatts by 1985 (1 GW is roughly the capacity of a single large modern nuclear plant). Right now, it looks like the Soviets will be lucky to reach 25 GW by that date.

This record of only 50% fulfillment of the original plan is one of the worst in the Soviet economy, and cannot be dismissed as just another manifestation of poor Soviet economic performance. The foot-dragging and obstruction in an area which leading economic planners and politicians had defined as a national priority can only be due to the persistent opposition of the military leadership of the country.

The Soviets have known all along that nuclear-generated electricity is far and away the most advantageous form of energy for an economy, the one that best promotes technological and economic growth. The nuclear course not only made economic sense, but it had ideological legitimacy as well: It was, after all, Lenin who had defined communism as "Soviet power plus electrification of the entire country."

Nevertheless, the Soviets' effort to apply the most modern technology to that task of electrification was pitiful. From the construction of the first station in 1954 until 1970, the Russians had managed to install less than 1 GW of nuclear capacity. (The U.S.A. by that time had 6.5 GW.) By 1975 the Soviet figure had crept up to only 4.7 GW, compared to a U.S. increase to 39.8 GW. As bad as this was, though, there were signs that the advocates of the peaceful use of atomic power might be gaining the upper hand. Officially,

nuclear program

the U.S.S.R. was to build 50 GW of nuclear capacity by 1985, and to reach that level it planned to build a new industry and a new city around the world's first assembly-line production facility for nuclear reactors. The new factory, the Atomash Plant on the Volga-Don Canal in southern Russia, was to be the showpiece of the national nuclear program, turning out eight reactors a year that could be transported by river and rail to power station sites around the country.

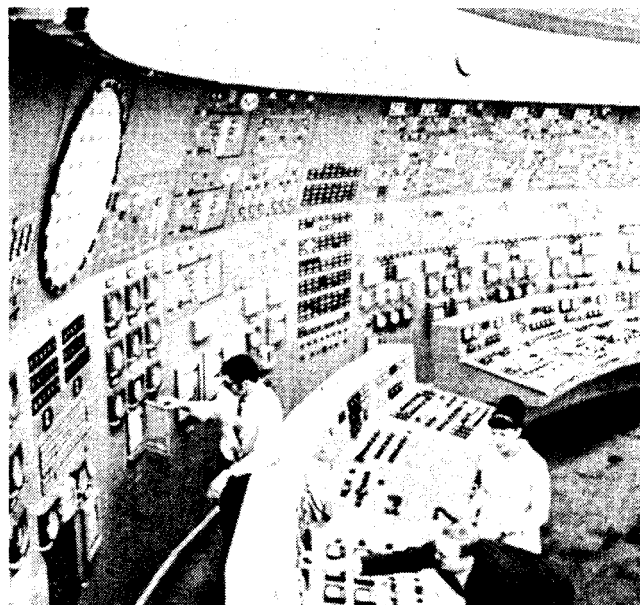
Official Soviet statements explained why the nuclear effort was necessary. Increased electrification of the country was essential, they said, because of the rising transportation costs of oil and gas; the old gas and oil fields were becoming exhausted, and the new fields lay thousands of kilometers deep into Siberia, with no roads or rail communications. The way to generate that electricity cheaply, specialists said, was through nuclear energy: "Atomic power stations generate electric power at a substantially lower cost than other power stations do," said one top expert, Academician Styriovich.

The shift to natural gas

In other words, in view of the huge extra infrastructural investments required, oil and gas are not cheap energy sources. Yet what has happened over the past years? Precisely at the same time that the nuclear industry has been kept operating at half-speed, incredible resources have been invested in the uneconomical Siberian oil and gas industries.

The size of the gas effort in particular is staggering. In the past five years, according to newly appointed Soviet Communist Party boss Konstantin Chernenko in his election speech in early March, the Soviet Union has built 40,000 kilometers (around 25,000 miles) of gas pipelines. This required some 27 tons of steel pipe, at a cost of around 30-35 billion rubles. This is a huge investment, more than that spent on nearly every major national industrial project the Soviets have recently undertaken—the BAM railway in Siberia, the Kama River truck plant, the Volga auto plant, Atomash, and others—combined. It is an investment that makes very little economic sense except for one fact: A large part of the pipe was produced and paid for by Western countries.

The sheer inefficiency of the investment in the gas pipeline can be seen from the following calculation. According to Soviet figures, the so-called specific capital investment of a Soviet power station—that is, all the expenditures required



A nuclear plant on the U.S.S.R.'s Mangyshlak peninsula.

to build the plant, including the costs of building railways and roads to connect the plant to the existing transportation network, losses caused by construction, costs of water supply, and investments in housing and other facilities for new workers—is in the range of 210-270 rubles/KW of capacity, depending on the type of reactor built. Thus, if the Soviets had taken the full 30-35 billion rubles which they had invested in gas pipelines over the last five years and built nuclear plants instead, they could have had an additional 111-166 GW of nuclear capacity. And even with a more realistic assumption that not all the investments could have been diverted from gas to nuclear, it is clear that there would have been no problem in reaching the target of 50 GW of nuclear capacity by 1985, and probably much, much more.

Economically, this would have meant a tremendous advantage for the Soviets themselves. Rather than pouring tens of billions of rubles into a very inhospitable region of the country for pure raw materials extraction, they would have been involved in nuclear technologies on a tremendous scale in the civilian economy. Whereas in the gas option, the infrastructural investments were made in regions not previously involved in production (and thus such investments do not contribute to speeding up rates of circulation within the production apparatus), in a nuclear option infrastructural investments would have been concentrated where they were most needed in the Soviet economy: to upgrade the infrastructure grid within existing production regions.

But this economic argument did not outweigh what the marshals perceived as the *military* advantages of five years' intensive investment in natural gas production: a more decentralized energy grid inside the U.S.S.R. and, thanks to a huge volume of gas exports to the West, a prime capability for energy blackmail of the adversary in Western Europe.