



ANUMUKTI

A Journal Devoted to Non-Nuclear India

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Kudankursk

*Their sub sinks in the Barents Sea;
clueless and helpless, they keep wrenching their hands.
Their sailors the drowning together in the iron cage,
And the Nero-put in plays his fiddle in the Black Sea resort!*

*Defying nukes, leaks, decimation and death,
Norwegians offer help but they aren't too eager.
Their ostankino glory burns earthward for 26 hours;
They're looking up to the Heavens for miracles!*



*State of the state worries bureaucrats,
slide in infrastructure bothers technocrats,
Spate of events shatter the politicians and
State of the coffers makes them all panic.*

*The "pitiful helpless giant," as their leader calls it,
thought in gargantuan terms but is fast crumbling down,
seeds money, jobs, foreign projects and guinea pigs
To instil life into economy and stay afloat on the world may.*

*here they are on our shores, on the Bay of Bengal,
parading discredited technologies and doubled know-hows
And playing with our lives and futures for their survival,
why does Koodankulam sound now as Koodan-kursk?*

S. P. Udayakumar

Events Diary

August 6, 2000

Jaduguda: About 1500 local children had made hundreds of paper cranes in memory of all the children who had perished in the nuclear holocaust at Hiroshima. More than 50 children suffering from different forms of deformity and mental retardation took part in a painting workshop. The programme culminated in a procession where the Uranium Corporation was asked to stop its pollution. We have received reports of large number of programmes in various schools in Nagpur in which more than ten thousand children have participated.

August 9, 2000

Calcutta: Police beat up demonstrators protesting against a state government decision to build a nuclear power plant in West Bengal. More than 100 organisations had participated in organising the peaceful demonstration which was attacked without any provocation. 41 people were arrested and even women were illegally manhandled by male police.

May 15-26, 2000

Pokran: Anumukti team in collaboration with Swaraj Trust of Rajasthan completed the data collection for a comparative health survey of five villages in Jaisalmer and Jodhpur districts. Analysis of this data is proceeding.

Coming Events

11-13 November 2000

Delhi: National Convention for Nuclear Disarmament and Peace is being held in Delhi from 11 to 13 November 2000. All antinuclear energy activist should participate to draw attention to the close connection between the Atoms for War and the Atoms for Peace programmes. Unfortunately this connection is not apparent to many peace activist.

11—30 September 2000

Jaduguda: Anumukti team in collaboration with JOAR will conduct a comparative health survey of villages in the vicinity of the uranium mines at Jaduguda.

From

A Cautionary Tale

As work continues on a "feasibility study" for construction of two Russian VVER-1000 light water reactors at Koodankulam, Indians would do well to review Russians' sad experience with the atom. Many things are still unknown about the Soviet nuclear program. Debates continue among experts as to the number of tons of plutonium (and therefore also the volume of reprocessing wastes) that have been produced. Little is known about early waste dumping practices. Information on the health of workers and neighbors of nuclear plants is even more difficult to obtain and evaluate. Yet, the overall picture is clear. From nuclear submarines decaying in northern and eastern ports, to the Semipalatinsk test site in the south, in present-day Kazakstan, the race to produce nuclear weapons has resulted in environmental contamination on an enormous scale, with site-by-site contamination measured in millions and billions of curies. In addition, even a full decade before Chernobyl, the Soviet people had already experienced a reactor accident that must rank among the world's most serious (SEE P. 5).

The Soviet nuclear establishment acted little differently from that of any other country in terms of their disregard for the human consequences of their activities. But the scale of their production, combined with the complete lack of public oversight, put the resulting damage in a class of its own.

Russia provides a cautionary example to Indians for another reason as well. If nuclear energy is dangerous in a wealthy country, it can be disastrous in a poor one. As former nuclear regulator Vladimir Kuznetsov (P. 4) reminds us, when money is tight, safety and environmental provisions are the first to go.

There have been widespread movements in Russia to bring an end to nuclear production, and to draw attention to the suffering brought about by the carelessness of the nuclear establishment, from referenda blocking new reactor construction, to independent monitoring efforts. But, as articles on page 7 demonstrate, the task of these activists is getting increasingly difficult and dangerous, as environmental concerns take a backseat to the desire for quick profit. Nowhere is this callous equation clearer than in the Ministry of Atomic Energy's (Minatom) invitations to foreign countries to export their nuclear waste in Russia, with the resulting revenue to be used for new reactors (with the subsequent production of even more waste). With the drying up of its traditional government sources of funding, Minatom has turned its gaze abroad. A project to convert surplus weapons plutonium into reactor fuel (with financial support from the US and the G-8 countries), and export of reactors and other technology are two additional potential funding sources for Minatom's ambitious construction plans. Unfortunately, Minatom's willingness to clean up existing sites does not match its zeal for new projects.

Thus Indians have an additional, neighborly reason to oppose the reactors at Koodankulam. They will not only be safeguarding their own future, but by denying funds to an irresponsible Russian nuclear establishment, will also be lending a hand to the many Russians who are trying to put an end to their country's nuclear nightmare.

—Anita Seth

Russia Is an Eco-Disaster, and It Just Got Worse

A couple of months ago, Russian President Vladimir Putin abolished his country's environmental protection agency—a decision that bodes ill not only for the people and ecosystems of one of the world's most polluted nations, but also for the security and environmental health of the entire world.

Acting by decree and without explanation, Putin shut down the State Committee for Environmental Protection on May 17 and transferred its responsibilities to the Natural Resources Agency, the government body that licenses the development of Russia's vast stores of petroleum and minerals.

After eliminating the State Committee on Forestry, Putin completed his governmental reorganization by naming Alexander Gavrin, who has close ties to the country's biggest oil producer, Lukoil, as energy minister. In short, Putin has put industrial foxes in charge of the environmental henhouse.

Created as a cabinet-level body under Mikhail Gorbachev in 1991, the Ministry of the Environment was downgraded to a mere State Committee in 1996 by the newly reelected Boris Yeltsin. But many Russian environmentalists point out that the committee played a positive role in some cases—it helped the Russian environmental law firm Ecojuris stop Exxon from dumping toxic waste from oil drilling into the seas off the Sakhalin peninsula, for example. Despite their frequent criticisms of the committee's inadequacies, alarmed activists are now gathering signatures to force a national referendum on Putin's decree. "Even a shabby State Committee for the Environment is better than no environmental monitoring body whatsoever," argues Greenpeace Russia spokesman Alexander Shuvalov.

Victor Danilov-Danilyan, who headed the committee when it was abolished, notes that 61 million Russians already live under environmentally dangerous conditions. In 120 Russian cities, air pollution levels are five times higher than acceptable, according to Russia's own standards. One million tons of oil the equivalent of 25 Exxon Valdez spills—leak out of pipelines and into Russia's soil and water every month. The Russian new agency Tass reports that 30 percent of Chechnya is an ecological disaster zone, thanks in part to the 26 oil wells that have been on fire nonstop for months.

Nevertheless, one day after Putin's announcement, the Natural Resources Agency declared it planned to "simplify" rules governing environmental behavior in Russia. Logging policy in particular is slated for overhaul. Russia contains 22 percent of the world's forests more than any other nation. With help from a \$60 million loan from the World Bank, the Putin government plans to improve the investment climate for logging in Russia. Leveling Russia's vast forests will speed the extinction of countless plant and animal species, it will also remove a major source of fresh air and water and a counter to global warming.

Nowhere are Putin's actions more frightening, though, than with respect to nuclear technology. The State Committee for Environmental Protection did not directly oversee Russia's nuclear industrial complex, but Putin's business-first attitude seems certain to carry over to nuclear policy. Not one of Russia's 29 nuclear power plants has a complete safety certificate; many have been cited for hundreds of violations. Yet Putin's minister for atomic energy, Yevgeny Adamov, wants to build 23 more nuclear power plants, plus another 40 advanced, "fast breeder" reactors.

Adamov says fast breeder reactors will make Russia rich, which is the same reason he offers for changing Russia's laws to allow the import of tons of nuclear waste—as if Russia isn't already choking on the stuff.

During the Cold War, the barbors of the Kola Peninsula (in northwestern Russia near the border with Norway) were home to the Soviet Union's Northern Meet, which dumped used submarine reactors, spent fuel and other nuclear debris into the sea with abandon. The waters now contain two-thirds of all the nuclear waste dumped into the world's oceans.

The problems at Kola came to light through the work of Alexander Nikitin, who was arrested by federal security services (FSB) in 1996 on charges of treason and divulging state secrets (SI I P. XX) Putin, who headed the ESB in 1998 and 1999, defended the FSB's aggressive stance toward Nikitin and other environmentalists, asserting last year that environmental groups provide convenient cover for foreign spies But Putin's May 17 decree suggests that his real concern is not that environmentalists will compromise state security, but that their efforts will elevate ecological purity over the speedy resource development that the Russian leader believes his country needs

*Mark Hertsgaard
The Washington Post, July 9, 2000*

Mark Hertsgaard is the author of "Earth Odyssey: Around the World in Search of Our Environmental Future" (Broadway Books).

The Whistleblower Is Whistling, But Are We listening!

Safety Problems in the Russian Nuclear Complex

V. M. Kuznetsov

V.M.Kuznetsov is a Russian nuclear industry insider. He has worked in nuclear power plants as well as in Gosatomnadzor the Russian nuclear regulatory agency. What he has written is written with an expectation that the Russian nuclear industry would overcome its myriad problems. We in India need to seriously consider all these problems before committing ourselves to this nuclear technology at Koodankulam.

The number of incidents at nuclear facilities in Russia continues to increase, due in part to gross violations of nuclear and radiation safety regulations (unskilled handling and losses of ionizing radiation sources, unplanned doses to workers and the surrounding community, etc.). These incidents occur because of inadequate worker training, the irresponsible attitude of managers and specialists, and the overall poor culture of safety among workers at nuclear plants and among the population.

The situation is compounded by the poor quality and significant degradation of

- equipment, and planning mistakes made during the construction of plants posing nuclear and radiation hazards.
- Long-term use of atomic energy for peaceful and military purposes without legal regulation has also contributed to the situation, giving rise to many problems demanding urgent solutions (plant decommissioning, overhaul of operating facilities, long-term storage of radioactive wastes, etc.).

In addition numerous violations at nuclear power plants (NPPs) and other Minatom facilities, a number of serious accidents, accompanied by releases of

radioactive materials into the environment, have occurred, including those at the reprocessing plants at Tomsk-7 (1993) and at Chelyabinsk-65 (1994, 1995).

Decision-making in earlier periods failed to guarantee safety in nuclear materials use, and to some extent in spent fuel reprocessing and long-term storage, which now require large financial and material resources.

When Money Becomes Tight, Safety Is The First Casualty

The country's current economic situation (the slump in production, breakdown in production networks, increasing production expenses, difficult finance situation facing most operations, especially governmental) has led to the development of additional factors affecting the condition of nuclear and radiation safety, such as:

- loss of leading highly-qualified professionals, who have been replaced by a pool of incompetent specialists;

a reduction in staff overseeing facility safety, including offices that carry out nuclear and radiation safety controls;

- insufficiency, and in most cases total absence of funding for replacement of outdated or nearly expired equipment and instruments that are important to guaranteeing safety

- sharp increase in the cost to facilities of labor and services for maintenance of nuclear and radiation safety, including for transport and storage of radioactive waste, and disposal of contaminated uniforms

- the weakening role or liquidation of ministerial control over facility safety

- the absence of a strong, meaningful independent governmental regulatory body in Russia.

*From: Russian Atomic Energy
Yesterday, Today and Tomorrow
(Moscow: Golos-Press, 2000).*

History of VVER-1000 reactors

Balakovo Nuclear Power Plant

The Balakovo NPP is located on the banks of the Volga River, 160 km up from the city of Saratov. Originally, Balakovo was planned to be the biggest nuclear power station with proposed construction of 24 reactors along the Volga. However, after the Chernobyl accident and numerous protests by the "greens," the number of proposed reactors was reduced to six.

Construction on the plant began in 1980. Today there are four VVER-1000 reactors operating there. The first started operating in 1985, the second in 1987, the third in 1988, and the fourth in 1993. The third and fourth reactors have been operating under restricted capacity of up to 90% since 1993.

On July 31 1992 the Malyi Soviet (lower house) of the Saratov regional parliament adopted a decision regarding further construction and operation of the Balakovo NPP which, in part, supported a resolution by the Balakovo city council prohibiting the fuel loading and start-up of the fourth reactor. In addition, a decision was made to appeal to the upper house of the federal parliament to take a decision to remove construction of the second set of reactors at Balakovo from its energy development plan.

On 25 April 1993, a referendum was held in Balakovo on the construction of the fifth and sixth reactors at the NPP. 73% of voters opposed the construction.

In late February 1993, fuel loading began without notification of local authorities or the public, in mid-March, fuel loading was completed and the reactor began operation. However, soon the production of the reactor was reduced to 50% due to a lack of electricity demand.

The history of the start-up of the fourth reactor is notable also in that the current head of Gosatomnadzor [the Russian atomic regulatory agency] Yuri Vishnevskij was the head of Gosatomnadzor inspections at the Balakovo plant until 1991. (Balakovo at that time held the leading place among Russian nuclear power plants in incidents.)

In campaign speeches, Vishnevskii promised that if he was elected as a deputy to the upper house of the federal parliament, he would not allow the start-up of the fourth reactor, nor the construction of the fifth and sixth reactors at Balakovo. But times change, and in taking leadership positions, people themselves change. With the break-up of the Soviet Union, he moved from his deputy's chair into that of the head of the country's regulatory agency, and of course forgot everything that he had promised to his constituents.

Construction on the fifth reactor was begun in 1987, and the sixth in 1988. Recently Rosenergoatom [the Russian

utility that operates NPPs] has evinced an interest in completing and starting up the fifth reactor.

The most pressing operating questions for all VVER-1000 reactors are: maintaining the required level of integrity of the reactor vessel, increasing the effectiveness of control, instrumentation, and electricity-production systems, increasing reliability of steam generators, and reliability of diagnostic systems.

But there is an additional set of problems specific to this particular power plant.

First, there is a danger of flooding in the case of a breach in the Samarskaya dam, which is located upstream on the Volga.

Second, construction irregularities were tolerated when the reactor foundation was laid. Settling occurred more quickly, and unevenly, than was projected, resulting in construction difficulties, especially for the first reactor. A "counterweight"—a concrete beam stretching from one side of the roof to the other—was built, in order to "guarantee absolute horizontality of the main reactor vessel and its associated equipment." The plant administration, which initiated this method, called it a "technological novelty."

Below are some of the most serious incidents that have occurred at the Balakovo plant:

- During tests of the first reactor in 1985, before it was loaded with fuel, a pipeline break caused by worker

Leningrad accident

The Chernobyl accident, because of its horrifying magnitude, has overshadowed other serious accidents that occurred in Soviet reactors, such as this 1975 Leningrad accident, virtually unknown outside of Russia. The accident followed two serious incidents at the plant in January and February 1974. Four RBMK reactors are in operation at the Leningrad nuclear power plant, the first dating to 1970

On 30 November 1975, an accident occurred at the first reactor of the Leningrad nuclear power plant, which involved a large release of radioactive materials. The accident was caused by a fuel rod that split open in one of the 1693 channels leading to partial destruction of the reactor's active zone. 1.5 million curies of radioactivity were released into the environment. Immediately after the accident, the background level of radiation

er of Sosnovy Bor [the suburb of where the nuclear power plant is eached 8 roentgen. Residents of bor and the surrounding areas were ed of the accident. The first f it occurred in March 1976 at the f foreign Affairs, when Prime Kosygin mentioned inquiries by and Finnish governments increases in background radiation in their countries

negligence killed thirteen people. The person who allowed the accident to occur, after one year of confinement, became a personnel instructor at the Smolensk training center

- A massive shutdown of the steam generators occurred from 1987 to 1991

- In the first quarter of 1997, damage to the steam generator in the second

reactor caused localized contamination of 30 m² of the ceiling of the machine room which exceeded the regulatory limit (up to 180 microR/h).

■ On June 26, 1993, eleven control rods in the second reactor became jammed during a safety test that was conducted during a repair stoppage. The reactor was on "hot" standby before repairs were to begin. The temperature of the primary cooling circuit was 280 degrees C, the pressure 160 kg/cm². While the safety test was being performed, eleven control rods got stuck in an intermediate position in the lower zone. The incident corresponded to Level 2 on the INES scale.

Other operating VVER-1000 reactors in Russia

Two VVER-1000 reactors are operating at the Kalinin NPP, located near the town of Udomlya, [north of Moscow). The first reactor began operating in 1984, and the second in 1986. A third reactor of the same type is under construction, with start-up planned after 2002. Construction of a fourth reactor was stopped at the end of 1992, following a governmental decree.

Among the most serious incidents that have occurred at the plant are:

■ On 1 July 1992, localized radioactive contamination of the ground adjoining the first reactor at the plant was discovered when a pit was dug in preparation for enlargement of the building.

■ In 1994, two workers received doses exceeding the allowable limit (5 rem) and two others exceeded the regulatory limit (3 rem) while doing repair work.

Source: Vladimir Kuznetsov, Russian Atomic Energy: Yesterday, Today and Tomorrow (Moscow: Golos-Press, 2000),

● Leaked Documents Show Russian Nuclear Safety Shaky...

Confidential governmental documents, released by Russian environmental organizations Eco Defense! and the anti-nuclear campaign of the Socio-Ecological Union in May, show that the level of safety at nuclear power plants is dangerously low in Russia.

The first, a report by the Ministry of Atomic Power (Minatom) dated March 31, 2000, was prepared for a meeting in the closed city of Snezhinsk attended by President Vladimir Putin. The second is a report from the Nuclear Inspectorate (GAN) on nuclear and radiation safety in Russia in 1999. According to both documents, there were 840 cases of violation of nuclear safety norms and rules at Russian nuclear power plants in 1999.

For longtime, Russian nuclear plants were serving both military and civil purposes without special legislation. Presently the equipment at Russia's nuclear power reactors is too old to operate normally, and their design is outdated, warns Vladimir Sliviyak, antinuclear campaigner for Eco Defense! and the Socio-Ecological Union. "Nuclear reactors of the first and second generations must be shut down according to adopted safety rules in Russia, but there is no technical experience and nor finances to do that," says Sliviyak.

Moreover construction of Soviet designed reactors continues - an RRMK graphite-moderated reactor at Kursk and two VVER-1000s light water reactors at Kalinin and Rostov

...Yet Minatom Unveils Plans to Build 23 Additional Reactors and Import Nuclear Waste

Russia's Minister for Atomic Power, Dr. Evgeny Adamov announced on May 25 plans to build 23 new nuclear reactors by 2020 and to change Russian law to allow the import of nuclear waste, Russia currently operates 29 nuclear power plants.

These plans are a part of the Ministry of Atomic Energy's (Minatom) new program of nuclear development for the next 50 years, presented to the government of President Vladimir Putin. The text of Adamov's speech, obtained by environmental groups, proposes decreasing consumption of natural gas and increasing nuclear power generation to replace natural gas.

In his speech, Adamov's argument is that Russia will run out of natural uranium in 60 years unless government agrees to his proposed strategy.

Investment needed for implementing of this strategy is US\$32 billion. According to the text of Adamov's speech, expenses will be covered by increasing prices for electricity and import of nuclear waste from all over the world to Russia, requiring a change in Russian environmental law. This is not the Russian government's first look at changing the law governing import of nuclear waste. In February and September 1999, the State Duma (Parliament) considered measures favoring spent fuel imports.

The amount of spent nuclear fuel accumulated in Russia is currently about 14,000 tons. Minatom's new strategy allocates only about US\$3.6 billion over 30 years for nuclear waste management.

—*Environmental New Service, May 2000*

The Post Soviet "Democratic" State

Abuses against anti-nuclear activists in Russia

On July 2, 1999, Aleksandr Nikitin, a former Soviet submarine captain, was charged for the eighth time with espionage for blowing the whistle on illegal nuclear waste dumping. Although he had already been acquitted several times already on the same charges, Russia's FSB (previously the KGB) continued to press the case against the former Naval officer, relying on secret decrees given retroactive force.

in "The Russian Northern Fleet: Sources of Radioactive Contamination." a report he co-authored with the Norwegian Bellona Foundation, Nikitin helped document the problems of radioactive pollution from mothballed nuclear submarines. "Without international cooperation and financing," the report warns, "a grave situation could arise which can be pictured as a Chernobyl in slow motion. If safety measures are not implemented, major accidents and the release of fissile material will be unavoidable."

Because he wrote two chapters in the report - a report that contained information easily garnered from public sources - Nikitin was persistently harassed. His home and office were bugged, his car was routinely followed and vandalized, and his lawyers were harassed by the Russian secret police. His trial began in late November. Nikitin was acquitted of high treason on December 29, in part thanks to Russian and international human rights and environmental activists who had been working on his behalf. The judge ruled that there was no legal basis for the FSB's charges and criticized the manner in which the investigations had been carried out. The Federal Security Bureau has the right to appeal the ruling to Russia's high court.

Pattern of Persecution

Aleksandr Nikitin's case is not an isolated incident, but only the most well-known

example of a larger trend of harassment of environmental activists in Russia

Military weapons, radioactive pollution being a byproduct, remain one of Russia's few major exports. Neither the military, nor its client industries want environmentalists peeking into the dark corners. Despite constitutional provisions that recognize the right to a favorable environment, the right to reliable information about its condition, and compensation for damage to health or property caused by ecological violations, the Russian government actively stifles the freedom of expression for environmental activists working on Russian nuclear and toxic contamination

Navy captain Grigory Pasko, was arrested and convicted for his efforts to expose nuclear waste dumping and radioactive pollution problems caused by Russia's decaying nuclear submarines in the Russian Far Eastern Fleet. Although he was later released, the military journalist was found guilty of abuse of office for personal gain and violating the interests of society and the state.

According to reports published in the Ottawa Citizen and the St. Petersburg Times in July 1999. The FSB raided the laboratory of scientist Vladimir Soifer, ending his scientific research into contamination of the Pacific Ocean by radioactive waste.

On September 6, 1999, Socio-Ecological Union and Eco-Defense! anti-nuclear campaigner Vladimir Slivyak was arrested near his Moscow home by the city's criminal police. Slivyak was accused of being a terrorist [specifically, taking part in the bombings of several Moscow apartments, which were also widely reported in the media as the work of Chechen separatists). The police

waived a bag of marijuana in front of his face and threatened him with additional drug charges unless he cooperated. In December, EcoDefense' campaigner Alisa Nikulina was summoned to the ESB headquarters at Lubyanka and questioned for several hours as a "witness" to the apartment bombings

In the fall of 1999, three members of the Chelyabinsk-based Movement for Nuclear Safety (MNS) were arrested after a demonstration highlighting the degradation of the Techa River, which has been severely contaminated by the operation of the "Mayak" plutonium production plant. Earlier this year, the governmental Committee for the Environment brought a lawsuit against MNS and a local newspaper for libel. The defendants were exonerated in court.

In the fall of 1999, the ESB confiscated a computer and research materials from Joshua Handler, a PhD candidate at Princeton University and former Greenpeace campaigner. Handler is writing his dissertation on strategic nuclear weapons.

Igor Sutyagin, a researcher at the Russian Institute for US and Canadian Studies with whom Handler was working, was arrested in October 1999. Sutyagin has published on military and arms control issues, and was involved in a project examining civilian-military relations and the role of the military in Russian society. He is currently in a security services prison awaiting trial, and has been denied visits for the past four months. His initial six-month jail term was extended by three months (*in violation of Russian law*) on the grounds that inquiry into his case had not been completed. The FSB has not yet filed formal charges against Sutyagin, but has announced that it will accuse him of

espionage and treason. He is facing a potential sentence of 12-20 years.

In 1998, the Russian Federal Justice Department enacted a decree that allows state authorities to deny official registration of many human rights and environmental groups. In August 1999, the Moscow City Court upheld a lower court's ruling to deny official registration for the Moscow-based Advocacy Coalition for Environment and Human Rights led by Alexei Yablokov, a former environmental advisor to President Yeltsin and leader of Russia's environmental movement. A Russian Justice Department official claimed that "the protection of human rights in the state is the responsibility of the state itself."

In early 1999, the same department refused registration to seven other Moscow-based human rights groups, including the Glasnost Foundation, on the same grounds. In February 2000, the police ordered that the Moscow office of Greenpeace International be sealed off because of failure to get official permission for a recent renovation, but retreated when asked to produce an official order.

In spring 2000, regional prosecutors conducted audits of a number of environmental organizations, including Chelyabinsk-based "Techa," which addresses radioactive contamination resulting from operation of the Mayak nuclear plant, St. Petersburg-based "Green World," which monitors the Leningrad nuclear power plant and recently campaigned against construction of a nearby oil terminal, and Sakhalin Ecology Watch.

"Our freedom of speech is already much smaller than in the early '90s," says human rights advocate and attorney Yuri Schmidt. "It will become worse. If you don't act now, tomorrow we will wake up in the USSR."

*Based on
Amnesty International Report*

Unintended Consequences The Moscow Plutonium Deal

At their summit in Moscow in June, U.S. President Bill Clinton and Russian President Vladimir Putin initialed a landmark deal: The United States and Russia pledged to destroy 34 metric tons of weapons-grade plutonium, largely by using it for fuel in civilian nuclear reactors. The agreement suggests a showcase of cooperation between the two nations, eliminating fuel that could be used in weapons of mass destruction.

But over the long term, this agreement may, in fact, worsen the problem of nuclear proliferation. The Clinton-Putin agreement will create a large-scale global civilian demand for and supply of plutonium, a prime component in the construction of nuclear weapons.

According to the text of the agreement, Russia will turn its share of the plutonium into a fuel called MOX, for use in nuclear reactors both in Russia and abroad. The United States is adopting a similar plan for 25.5 metric tons of its plutonium; the remainder will be sealed in glass and buried. The United States will pay for its portion, \$4 billion, by itself, as well as sink \$200 million into Russia's civilian nuclear industry. At the July summit in Okinawa, the United States and Russia will ask the G7 to cough up the remaining \$1.55 billion for the Russian program .

Much of the MOX will be used in converted Russian reactors, some of which are more than 20 years old. A Chernobyl-like accident involving plutonium would be far more serious than the original one, which involved uranium.

The plan begins with a total of 10 American and Russian reactors. But it would take these reactors 20 years to use all 1,000 metric tons of MOX the agreement would produce. If the agreement is extended to the rest of the American and Russian plutonium stockpile, this could exceed 60 years. This is why the agreement would bring other countries on board. Belgium, Canada, France, Germany, Japan, Ukraine and the United Kingdom have all expressed an interest.

By converting plutonium to MOX, the American-Russia agreement would help, an ailing American uranium nuclear industry. In order to transform waste plutonium into MOX, it must first be purified. This purified plutonium can be used for nuclear weapons. To counter this concern, the United States insists it will decommission all parts of its new plutonium industry once the weapons-grade plutonium is destroyed, thus ending the proliferation threat. But Russia has made it clear it intends to continue using plutonium for fuel. So have other countries. Japan plans to have one-third of its 53 reactors using MOX by 2010. There are already 30 reactors in Europe licensed to use the plutonium-based fuel. All are simply waiting for a steady supply. The Clinton-Putin deal will build the processing centers (several in Russia) necessary to ensure that supply.

On average, every reactor that runs on MOX fuel will require four to six metric tons of MOX which contains 250 to 300 kilograms of weapons-grade plutonium a year. According to the US Department of Energy this is enough raw plutonium to make about 55 small nuclear weapons. And with 77 metric tons of new civilian plutonium created every year, the chances of losing a few kilograms here and there are immense.

Half a Century of Dumping

Russia's "Plutonium Cities"

Russia has produced at least 200 tons of plutonium at three sites over the last half-century, with disastrous consequences for the population and the natural environment of the Urals and Siberian regions. Billions of curies of waste have been dumped into rivers and reservoirs, released into the air, and injected into the ground. The "Mayak" facility (also known by the Soviet code name for the nearby closed city that houses its workers and their families: Chelyabinsk-65, later renamed "Ozyorsk") is located in the Ural Mountains region near the industrial city of Chelyabinsk. It is the oldest and largest plutonium production centre in Russia. The surrounding territory has become contaminated with large quantities of caesium, strontium, and plutonium as a result of the plant's activities.

Reprocessing activities at Mayak have created large volumes of liquid radioactive waste, a great deal of which has been dumped into local bodies of water. Mayak is located at the headwaters of the Techa river, which eventually flows into the Ob, a great Siberian river that in turn flows into the Arctic Ocean. From March 1949 to November 1951, 2.8 million curies of high-level reprocessing wastes were dumped into the Techa River, affecting 124,000 people living in 41 settlements along the river. Dumping of low- and medium-level wastes continued until the mid-1950s. Traces of radioactivity from the dumping were detected in the Arctic, more than a thousand kilometres away. Authorities prohibited use of river water after 1951, but because they failed to provide an explanation, local people continued to use the river for fishing, bathing, watering crops and animals.

Medium- and low-level wastes have also been dumped into natural and artificial reservoirs, which are vulnerable to floods and droughts. Among them is probably the most radioactive body of water on earth.

Lake Karachay. 120 million curies of medium-level reprocessing wastes were dumped here, much of which has settled into the sediments at the bottom of the reservoir. Following partial drying of the lake caused by a drought in 1967, strong winds carried 600 curies of radioactive dust into neighbouring areas. Since the 1967 incident, work has been carried on to fill in Lake Karachay with dirt, rocks and hollow

More radioactivity has been pumped underground in Russia than was released by Chernobyl in the hope that it would remain isolated for ever. If the hope proves optimistic... Well, Russia is a vast country.

concrete blocks. However, this hasn't ended the threat of seepage from the reservoir. Additional reservoirs, some of which were created through the construction of dams along the Techa River from 1949 to 1964, contain additional hundreds of millions of curies of radioactive wastes. Filtration from the reservoirs has contaminated ground water to a depth of 100 meters over an area of 10 km², and continues to spread.

Beginning in 1951, high-level liquid reprocessing wastes were stored in large stainless steel tanks. One of these exploded in 1957, in the famous Kyshtym accident, which was not officially admitted until 1989. An estimated 20 million curies of radioactivity were released in the explosion. More recently, some of these wastes have been vitrified (encased in glass) for long-term storage.

About 7500 residents were evacuated from villages along the Techa River between 1953 and 1960. Another 10,700 people were relocated after the 1957 accident, but

many after a delay of one or two years. The village of Muslyumovo, located 78 kilometres downstream from the plant, has been one of the most heavily affected by the contamination of the Techa. Readings taken there in 1992 showed levels of 300 to 500 microrads per hour, and readings even further downstream showed levels of 8,000 microrads per hour. The 3000 residents were never evacuated. A local community group has named itself "White Mice," reflecting a feeling that residents have been treated as material for radiation experiments. Even after passage of a 1992 law to help those affected by nuclear contamination (known as the Chernobyl Law) Muslyumovo residents face an uphill battle. Repeated promises for resettlement of those living closest to the river have failed to materialise. Furthermore, under the Chernobyl Law, radiation victims lose their right to health benefits and other compensation once they leave the contaminated area, and thus face a cruel trade off between their children's health and economic survival. An important victory came in 1998, when, after several unsuccessful lawsuits, residents won the first-ever settlement against Mayak, on behalf of the family of a young boy with leukaemia.

Plutonium separation from spent fuel continues to the present at the RT-I plant. Fuel imported from Ukrainian, Finnish, and Hungarian reactors has been reprocessed alongside Russian waste, and Minatom continues to seek foreign contracts for waste importation and reprocessing. At least 30 tons of separated plutonium is stored at Mayak. The plant also contains two small operating mixed-oxide (MOX) fuel production facilities. Under a recent US-Russian agreement (SEE P. 8), these facilities will be developed to fabricate MOX fuel out of surplus plutonium from dismantled nuclear weapons. Construction of three fast breeder reactors has been

proposed at the neighbouring South Urals NPP, Work at the site began in 1984, and was stopped in 1987 due to lack of funds and public opposition. In spite of a referendum held in March 1991, in which 75% of voters opposed the plant, the Ministry of Atomic Energy (Minatom) has included construction of the plant in its "strategy for atomic development in Russia, 2000-2050," and is seeking funds in federal and local budgets [SEE P. 6 FOR MORE INFORMATION ON REACTOR CONSTRUCTION PLANS].

The Mining-Chemical Complex (also known as Krasnoyarsk-26 or Zheleznogorsk) is located inside of a mountain along the Yenisey River, one of the major rivers in Siberia that flows into the Arctic Ocean. More than 65,000 prisoners and 100,000 soldiers were involved in digging the enormous caverns which contain reactors and a reprocessing plant. One reactor is still operating, ostensibly to provide power and heat to Zheleznogorsk residents (although a large dam less than 100 km upstream on the Yenisey is only partially in use because of lack of demand). Two other reactors at the plant were shut down in 1992. These were "once-through" reactors, which drew their cooling water from the Yenisey and then dumped it back without any treatment, severely contaminating the river. Carried hundreds of kilometres by the current, radioactivity accumulated in sediments, fish and plants along the river.

The village of Atamanovo is located six kilometres downstream from the plant, and next door is a summer camp to which 5,000 children came every summer during Soviet times. Many local people have ignored prohibitions on swimming and fishing within five kilometres of the plant's discharge pipes.

Nearby and above-ground is the site of the proposed RT-2 plant, designed to reprocess fuel from VVER-1000 light water reactors. Construction on the plant has been sporadic since 1989 due to a lack of funds and ongoing widespread public opposition. A local campaign for a referendum on

construction of the plant in the mid-1990s failed on a technicality: after more than the requisite 100,000 signatures to put a question on the ballot had been gathered, local authorities determined that construction of a federal facility could not be decided through a local referendum. Spent fuel from VVER-1000 reactors has been stored at the site since 1985.

Minatom has repeatedly sought foreign reprocessing contracts to help finance construction of RT-2. More recently, nuclear industry proponents have tried to alter Russia's Environmental Protection Law to allow long-term storage of foreign waste, as a means of raising funds [SEE P. 15 FOR ANOTHER WASTE IMPORT EFFORT]. (The law has been interpreted to allow spent fuel importation for reprocessing, because Minatom argues that it represents not a waste, but a valuable resource.) Recent proposals have suggested granite beds in the Krasnoyarsk region as a long-term storage site for this waste. Local environmentalists support construction of a geologic repository as an alternative to spent fuel reprocessing, but argue that storage should be limited to Russian and Ukrainian spent fuel which is already slated to come to the region.

The Siberian Chemical Complex (also Tomsk-7 or Seversk) is located less than 10 kilometres from the graceful old Siberian university town of Tomsk, on the Tom River, which flows into the Ob River. The site includes five reactors (two of which continue to operate, providing electricity and heat to both the closed city of Seversk and Tomsk proper), uranium enrichment and processing facilities, plutonium and tritium separation facilities, and plants for construction of nuclear warhead components. Planning for construction of high-temperature gas reactors at the site began in the mid-1990s, but remains in the research stage. Plans for a large-scale storage facility for plutonium and highly-enriched uranium, initiated in 1992, have been hampered by public opposition, arising from the fears about the danger posed by such a concentration of deadly materials and concerns that storage of these materials will

lead to on-site processing, such as production of MOX fuel.

In April 1993, a tank containing plutonium, uranium, and other radioactive materials exploded, blowing a hole through the roof of the room where the tank was located, and causing a wall to collapse. Authorities waited a week before evacuating children from the village of Georgievka, the settlement most affected by the accident.

Liquid reprocessing wastes at Krasnoyarsk-26 and Tomsk-7 have been injected without any treatment into supposedly isolated wells formed by earth "collection layers" several hundred meters underground. 46 million cubic meters of waste with an activity of more than 2 billion curies have been injected at these sites, and at a third storage area near the plutonium research facility in Dimitrovgrad. In Tomsk, the injection layers are located just tens of meters above the area from which drinking water is drawn. Less is known about waste disposal practices at these sites prior to the advent of deep-well injection in the 1960s, but at least some portion of the wastes were dumped into above-ground reservoirs, as they were at Mayak.

The large-scale contamination of the environment resulting from careless waste dumping has been devastating to people living near the plutonium production plants. Health studies of Mayak workers and the surrounding population have been undertaken by the Institute of Biophysics (a division of Minatom). Existing evidence shows that cumulative exposure for Chelyabinsk-65 workers are much higher than for any other studied group of workers, and average individual doses for large groups of workers and some groups of residents exceed those recorded for either atomic bomb survivors (on average). But information on the resulting health impact is very unreliable because of a history of under-reporting of radiation-related disease, continued secrecy surrounding official medical records, and deficiencies in existing health studies. Little information is available on the health situation of residents living near Krasnoyarsk-26 and Tomsk-7.

Contamination Threatens the Ob

Novosibirsk is one of the largest cities in Siberia and in Russia, with population exceeding one and a half million people. It is crossed by the Trans-Siberian railroad, which serves as the major communication line between central and eastern parts of the country and Europe, and Far East, China and Mongolia. Novosibirsk is situated on the banks of Ob river, which carries its waters all the way down to the Arctic

Novosibirsk is a host of several dozens of large industrial enterprises. In this article, we will deal with one of them - Novosibirsk Chemical Concentrate plant - NCCP for short. The plant is located on the northern fringe of the city, about 8 kilometres from the centre of the town. NCCP was constructed 50 years ago for enrichment of uranium ores. Later, it was re-designed to produce nuclear fuel. In the Soviet Union, the plant used to be a monopoly, producing nuclear fuel for most commercial reactors of the country, as well as for many nuclear plants in the Eastern block countries. Presently, it keeps its leading position, shipping nuclear fuel to most Russian and some East-European reactors. Recently, the plant has signed a contract with China.

The character of the NCCP production is similar to that of the nuclear fuel plant in Fukushima village in Japan, the one which in October 1999 became the scene of that country's worst nuclear incident related to nuclear criticality. Two years ago, Novosibirsk Chemical Concentrate plant had similar incident. Fortunately, the release of radioactivity was much smaller.

For many years in Soviet Union, all works related to radioactive materials were classified as top-secret. For several decades, vast majority of the inhabitants of Novosibirsk had no idea that behind an ineffective sign "NCCP", right within city limits, was a huge nuclear enterprise.

Information began to emerge only with the beginning of Gorbachev's Perestroika. Improved availability of the information revealed another troubling problem. It soon became apparent that the data related to the environmental impact of the plant were virtually non-existent. Our non-government Institute "Siberian Scientists for Global Responsibility" has long been planning environmental inspection of the territory adjacent to the facility. However, we were

A fuel fabrication plant is situated within any limits causing radiodiffusion contamination of the surrounding, with no signs or warnings posted. Hyderabad and Novosibirsk, could be twin cities.

held back by the lack of suitable equipment. We realised, that in order to work on the territory where one can encounter radioactivity, reliable dosimeters are vital. Luckily, in September 1999, two Americans from the "Government Accountability Project" visited Novosibirsk. Louis Clark and John Carpenter had with them a dosimeter that allows measurement of alpha, beta and gamma radioactivity. Taking an advantage of this visit, we made a reconnaissance trip to the NCCP area. When they returned from Novosibirsk, John and Luis left their dosimeter with us saying "you guys, need it more than we do". NCCP pumps its liquid waste through a four kilometre-long pulp feed-line into a tailing pond. There, the waste is discharged into a reservoir, supported by an earth-fill dam. About 20 kilometres downstream, the reservoir-hosting creek, Pashenka, flows in to the Ob' river.

According to official estimates, there are presently several metric tons of uranium accumulated in the bottom sediments of the

tailing-pond. For many years, it used to be believed that loamy rocks that constitute the bottom of the pond and the beds of the dam absorb radioactive materials, purify the water, and do not permit the migration of radionuclides downstream.

So, we readied our dosimeters and set off to carry out an independent examination of the tailing dump ground. The pulp feed-line pumps tens to hundreds of cubic meters of radioactive sludge per day. The pipe is not marked. There is no fence around it and neither is it guarded. There are no radiation signs posted anywhere in the vicinity. We made a brief stop near the pipe, and immediately found heavily contaminated soil underneath.

For about one kilometre, the pulp feed-line goes within few meters from a major highway connecting Novosibirsk with Tomsk and this is just a few hundred meters from the Trans-Siberian railway tracks. Even inside the car, our dosimeters recorded radiation twice the background. Only near the police station the pipe is shielded by thin metal sheets.

Our initial plan was to examine part of the pond adjacent to the dam, and to collect samples of the bottom sediments and water from observation wells drilled in the dam. However, our very first readings forced us to change our plans.

A concrete structure, which we spotted, turned out to be an open flood spillway. During spring snowmelt, when the water level in the pond rises by more than one meter, the water discharges through a system of pipes directly to the creek valley downstream of the dam. Near the spillway notch, we found heavily contaminated soil - up to 1000 mR/h or about 100 times the background. This meant that in spring time, radioactive water from the pond could discharge in the Pashenka creek valley. So,

we decided to check radiation levels at the other end of the spillway.

In the service pit, our dosimeter showed elevated levels radioactivity. Also elevated were readings near the spillway pipe outlet on the flood-plain. A yet more shocking discovery lay ahead of us. We found that the spillway pipe, through which even in the most dry season of the year there was a flow of about 1 litre of water per minute was not the sole water flow path through the dam. In several places, we found small springs seeping from underneath the dam. Such seepage, is an indication of degrading dam stability. The water in the dam serves as a lubricant, so in spring, or after heavy rains, the dam may not endure water head and may one day lose its integrity. Having found an uncontrolled seepage of water from the pond that stores several tons of uranium, we decided to check contamination of the Pashenka creek flood-plane downstream from the dam. Another discovery awaited us there. On the reedy flood-plane, our dosimeters showed 3000 mcR/h - 300 times the background.

During the following days we surveyed this swampy and reedy valley. Having collected more than a thousand measurements, we determined that the radioactive contamination extends along the valley for almost four kilometres. The inescapable conclusion is that large amounts of radionuclides have accumulated outside the tailing pond of the Novosibirsk Chemical Concentrate Plant, and reside on the Pashenka creek flood-plane as a man-made radioactive body. This body 'lives' in accord with its own natural laws, and is not confined by any engineering barriers. Radionuclides that contaminated the flood-plane will remain radioactive for hundreds million years. Contamination zone is slowly moving downstream. We estimate that it may reach the main channel of Ob river within several decades.

*Based on the film script of "Leaky Dam
Where does radiation go?" Produced by
Siberian Scientists for Global
Responsibility*

The Nuclear Mindset

A sophisticated approach to environmental concerns from Russia's top nuclear official

"In Russia, ... We ask ourselves, Is It possible for the world to have large scale nuclear energy? By large scale, I do not mean the same as we have now, with around 5 percent to 7 percent of the total energy balance. This is a very small contribution to resolving the energy problem, large scale is, for example, 30 percent, 40 percent or 50 percent. At this scale we could really resolve not only the energy demand problem, but also environmental problems." "The question is, if we have such a level of nuclear energy, is it possible to manage the waste, particularly the spent fuel? Can we keep the same level of radioactivity as we had before we developed nuclear at all? The answer is yes, if we have the closed fuel cycle, we have the possibility to keep the same level of radioactivity. This means achieving a balance between the radioactivity of the waste being buried and of the uranium extracted from the earth."

—Evgeny Adamov, Russian Minister of Atomic Energy from a September 1999 speech to the Uranium Institute, London



MAYING WITH NUCLEAR FIRE

LESSONS FROM THE 'KURSK' CATASTROPHE

In March 1994, Aleksandr Nikitin, then a 44 year-old former submarine captain, published a report on the appalling state of safety in Russia's Northern Fleet, which handles the bulk of the country's nuclear-powered submarines. Using publicly available information, he painstakingly documented the Fleet's declining operation and maintenance standards, accumulating and overflowing radioactive waste, steeply falling budgets and morale, and the growing scarcity of spares, and warned of a series of disasters. Nikitin was arrested in February 1995 and charged with espionage and treason, punishable with death. Detained for months without trial, Nikitin was not allowed to choose his own lawyer. Finally, last year, he was acquitted by the courts, but now faces another trial on the same charge.

Welcome to the Kafkaesque world of nuclear weapons and submarines! The Kursk tragedy hasn't ended. The submarine's two nuclear reactors, with a 380 MW output, still lie 108 metres deep inside a damage hull amidst torpedoes, high explosives and other hazardous material. They contain an estimated 1,200 kg of highly enriched uranium, mostly U-235, with a half-life of a mind-boggling 710 million years. Therefore, huge quantities of the radioisotope will continue to menace the marine environment and humans for millions of generations to come. Even assuming that the reactors were not damaged by the explosives that sank the sub, which seems unlikely, dismantling the potent cocktail of uranium, hundreds of fission products including deadly plutonium, and chemical explosives, will entail large radioactivity exposures. The job will be incomparably more onerous than accessing the sub's rear hatch—a week-long, super-expensive, multi-national effort. Abandoning the sub would mean leaching radioactivity into the environment.

The Kursk is only one disaster that Nikitin forecast. "Much bigger ones are waiting to happen around Murmansk and Severomorsk", he told me two months ago in Stockholm. This severely depressed area of the Kola Peninsula holds 21,000 nuclear fuel assemblies and one-fifth of the world's 1,200 nuclear reactors—in patently unsafe, rapidly deteriorating, conditions. More than 200 reactors are literally rotting aboard 110 submarines which have been taken out of service. (About 180 Russian subs have been decommissioned). The Fleet, which receives less than half its designated minimum budget, has no money to dismantle the nuclear cores. Indeed, "it often lacks money to buy rations for the crew", says Nikitin, whose case this writer has followed since 1995. The result: scores of subs are corroding and sinking as their reactor compartments fill with water—presaging an ecological catastrophe. As bankrupt Russia's military budgets shrink—now to less than half the level of India's—training, maintenance and safety norms plummet further, making disaster likelier in the world's largest nuclear arsenal.

Russia's specific troubles are only *one* part of the nuclear submarine story. The other two parts are generic. Nuclear submarines everywhere are extraordinarily disaster-prone. And nuclear establishments everywhere operate secretly, irrationally and in paranoid ways. Nuclear subs have had serious accidents ever since they drove the Cold War's most furious phase of arms racing, in which safety hardly mattered. Today, wreckages of American and British as well as Russian subs lie on the earth's ocean floor. There have been numerous accidents aboard US, France, British and Russian submarines. "Greenpeace" has documented 121 "incidents" in the last case, 10 of which

caused reactor damage. There were also two core meltdowns — a nuclear reactor's maximum accident—in 1979 and 1989. Nuclear subs have inherent safety problems because they (like bombs) pack huge amounts of energy in small volumes and operate in conditions much harsher than civilian power reactors, themselves seriously accident-prone. A small error gets magnified into a big crisis.

The authorities' handling of the Kursk crisis further compounded the catastrophe. They first denied, and then tried to deflect attention from, its gravity. For four critical days, they refused offers of foreign assistance out of hubris and "national pride". President Putin refused to cut short his holiday. The British and Norwegians too delayed sending in assistance. Russia's nucleocracy refused to disclose relevant information, including the sailors' names, the sub's location, and the accidents circumstances. According to independent sources, there were two internal explosions, not a major collision, as claimed. Journalists had to bribe naval officers to get the victims' list. Their number too was raised without explanation from 116 to 118. When relations confronted them, the bosses used KGB/CIA-style methods: forcibly injecting sedatives to silence questioners

Such sordid behaviour is typical of all nuclear establishments. Whether in the US or USSR, France or Iraq, China or Pakistan, these all-male "Dr Strange love outfits" are marked by excessive secrecy and dominated by unaccountable "experts" who cynically exploit their privileged access to information. Secrecy cuts across the democracy-dictatorship barrier. For 40 years, the US refused to divulge facts about its terrifying radiation experiments on humans, including injections of poisons. The N-5 have always suppressed or denied unpleasant

facts about their nuclear programmes. Transparency and nuclear activities just don't jell. Nuclearism, with its bellicose "national security" mindset, its crude male-supremacism, its coarse social-Darwinism, its abiding faith in violence and mass destruction, has little use for effete, "effeminate" or "idealistic" things like human rights, social/gender justice or decency. Nuclear weapons and democratic accountability are mutually antagonistic.

All this applies a fortiori to India. The Atomic Energy Act (1962) betrays utter contempt for accountability. It allows arbitrary suppression of all information—patently unconstitutional, according to V.K. Krishna Iyer. The atomic energy department (DAE) is easily one of our most secretive. It has much to hide: uranium mining hazards in Jadugoda, excessive irradiation of power-plant workers, waste mismanagement, numbers regarding explosive yields...Worse, we have our own Nikitin: former Captain B.K. Subba Rao who too was charged in 1988 with spying and jailed for 20 months—until fully exonerated by three courts. His real crime? Questioning the DAE's nuclear sub (Advanced Technology Vessel) project, a spectacular Rs. 2,000 crore failure. Evidence of "espionage"? His IIT-Bombay Ph.D thesis.

However, we have an additional, special problem: unacceptably poor, sub-Russian safety and reliability in India's nuclear and defence establishments—witness 202 Air Force plane crashes in nine years, the Main Battle Tank project mess, the Purulia arms drop, the distinction of having six of the world's 10 dirtiest nuclear reactors; or for that matter, industrial and road accident rates four to 12 times the OECD average. It won't do to deny, Russian-style, India's poor safety culture and disaster-proneness. We can't even run power-grids and surface transport safely. It would be disastrous to let hubris drive us towards nuclear catastrophe. We must freeze our nuclear and missile programmes and return to the global disarmament agenda.

*Praful Bidwai
Times of India 30.8. '00*

The Nuclear Mindset (Indian Version)

The Nuclear Power Corporation of India Ltd. (NPCIL) has drawn up Rs. 100cr. estimates for establishing infrastructural facilities at Kudankulam where the Department of Atomic Energy has proposed to establish water cooled and water resistant (VVER) nuclear reactors with Russian assistance.

Mr. V. K. Chaturvedi, chairman and managing director of NPCIL told reporters at the site near here on Sunday that the estimates had been submitted to the Atomic Energy Commission for approval and funds would be released soon. Maintaining that funds could never be a constraint in establishing the atomic power plant, the CMD said the construction work would commence from January, 2001 following the receipt of the Detailed Project Report (DPR) being prepared by the Russian agency, Atomenergoproekt (AEP), in December this year.

The DPR would be implemented after scrutiny by the Atomic Energy Regulatory Board. The actual construction of the reactors would begin from 2002 onwards, he said, adding that the first reactor would be commissioned by 2007 and the second in 2008.

The Kudankulam project had been included in the Vision 2020 and it would help in generating extra power. The site acquired by the Corporation was sufficient for establishing six nuclear reactors and it had been planned to set up four reactors of 1000 mw capacity each. The reactors would be commissioned in a phased manner to ensure that the power generation capacity doubled once in seven years. About 50 Russian scientists initially and totally 700 in addition to 1,500 Indian scientists would be involved in constructing the reactors.

Asked if a jetty would be constructed at Kudankulam for importing the required material from Russia, Mr. Chaturvedi said the proposal had been shelved and instead they were concentrating on developing the port at Tuticorin. To another query on the dependence of potable water for cooling the reactors, Mr. Chaturvedi said though about 3.5 cases of water was likely to be drawn from the Pechiparai reservoir, the authorities would make alternative arrangements such as sinking bore wells and installing desalination plants.

The Hindu August 29, 2000

Vast Quantities of Potable Drinking Water for the Nuclear Monster

Promises of Desalination for the Public

Dump, Dump,... Russia is a Vast Land

Russian Weapons Lab Signs Secret Deal to Import Nuclear Waste

According to confidential documents, obtained by ECODEFENSE!, Russian officials are planning to approve a dump site for Taiwanese and Japanese nuclear waste on Simushir Island (one of the Shalin Islands, located in the Russian Far East). The project is being organized by the Kurchatov Institute (KI), Russia's largest nuclear weapons laboratory, and Asia Tat Trading Co Ltd, which manages radioactive waste in Taiwan and Japan. Profits are estimated by the organizers at US\$ 10 billion.

Taiwan Power Company (Taipower) has confirmed that it had signed an agreement with a Russian weapons center to store its nuclear waste, but denies a Japanese firm is involved in the deal. Instead, Taipower insisted no third party was involved, but confirmed a memorandum had been signed with a Russian organization to transfer waste to country.

"It's just a preliminary plan involving 5,000 barrels of nuclear waste,"* said Huang Huei-yu, division head of Taipower's public affairs department. "The idea of shipping waste to Russia has been held up by its laws that ban the import of any nuclear waste," said Huang.

But according to Taipower documents — written in Chinese and publicized by ECODEFENSE! on the Internet — the project includes technology provided by ATT. The documents, dated May 19, 1998, show that 200,000 barrels of Taipower's nuclear waste will be shipped to Russia via Japan within 10 years. Taipower will pay NT\$500 million, or an average of NT\$4,000 per barrel.

Benefits to the three parties were also mentioned in these documents!. For Taiwan, problems caused by the lack of dump sites for nuclear waste would be

solved, while thousands of job opportunities would be created for Russians. As for Japan, documents show that as the agent, ATT would make a handsome profit.

According to the documents, KI has promised to lobby for changes in Russian legislation in exchange for financial support of Asia Tat Trading Co Ltd. Article 50 of the Russian Law on Environmental Protection Law bans the import of nuclear waste to Russia for storage or dumping.

*Poison your land to
have the money so that
leaders can stroll about
being a global power! It
takes all kinds.*

The documents also show that KI is seeking federal funding for the Sakhalin project. In order to avoid problems with Russian legislation, KI has presented the proposed dump site as urgently needed to manage a large amount of KPs own waste, without mentioning Taiwanese and Japanese wastes. But a memorandum signed by KI and Asia Tat Trading Co Ltd clearly shows the intent to dump both Russian and Asian (Taiwanese and Japanese) radioactive waste. Construction of the site would cost US\$ 2.5 billion. The president has on his desk a decree "On additional efforts for cleaning up radioactive contamination in Russia and improving the security and effectiveness of radioactive waste management** that would clear the way for the Sakhalin dump.

According to the documents, Vice-chairman of the Duma (lower house of

Russian parliament) Committee on Environmental Protection Sergey Shashurin asked leaders of the parliamentary fractions to sign letters of support for the presidential decree. All fractions of the Duma have lent their support. Mr. Shashurin also requested official permission from KI to negotiate the Taiwanese waste imports. Official negotiations with Taiwan would violate a 1992 presidential decree that ended diplomatic relations between the countries.

Taipower's Huang said it was too early to say whether the memorandum would become a workable contract.

"Since the uncertainty regarding transporting nuclear waste to other countries continues to exist, Taipower has not given up building a final storage site for its nuclear waste," said Huang, adding that an environmental impact assessment for a disposal site at Wuchiu island, near Kinmen, was scheduled to be filed by the end of this year.

It has been reported that Taipower plans to begin operating the nuclear waste dump in 2012, but that these plans could be affected by local protesters asking for compensation.

Taipower said it was working with other countries, including North Korea and China, to find sites for final disposal.

Revelations of a similar secret agreement with Swiss and German companies, uncovered by Greenpeace International in 1998, caused widespread outrage in Russia.

*Sources: ECODEFENSE! and News
Agency Staff Reporter Chiu Yu-Tzu,
July 6 2000*

The Editor's Last Word

Now a days many people ask me quite often, "What's happened to Anumukti. I haven't seen it for a long time." I have run out of excuses. The hard unpalatable truth is that my interest has waned. Most of the people who receive Anumukti never even open the wrapper. (Figuratively speaking since actually Anumukti does not come wrapped.) Of those that do, once in a while glance through it, many can and probably do get most of the information through the electronic media. So what is the point of working hard at getting out a journal which does not cause even a ripple.

But then there are some die-hards who insist that Anumukti must go on. Most of these don't do any thing besides exhortation, nothing practically useful for achieving this goal. But again there are some who are willing to put in the effort to flog and revive dead horses. As they say it takes all kinds. Ms Anita Seth is one of this rare breed, it is entirely due to her efforts that this issue of Anumukti is in your hands. We, the rest of the Anumukti team are thankful to her for the kiss of life.

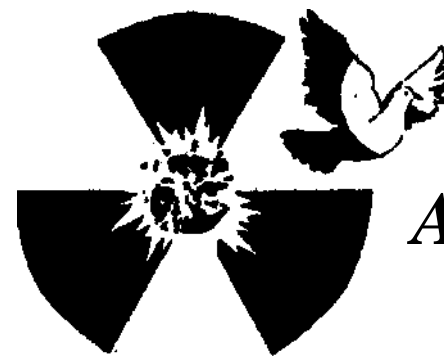
This issue concentrates on Russia. Russia is a wonderful country. The people are warm, full of life and laughter and able to shrug off difficult times. Very much like Indians. And like us they too have been burdened for long with a political leadership with no vision and no empathy.

But there is one big difference between Russia and India. Russia has a population less than one sixth that of India occupying an area more than six times as large. Except for sunshine it has lot more resources of almost everything and yet it has a declining population with a declining life expectancy. The reasons for this apparent paradox are not very obscure. In the race to be a superpower, the Russian leadership polluted vast regions of this vast land with poisons. Not only radioactivity but chemicals as well. The misery of the people today is a direct result of this short sighted misadventure.

The Indian leadership today too is engaged in a similar quest for 'glory'; for becoming a global power. Like all the rest of this breed they too believe that this power shall come out of a barrel of a gun or rather through the possession of devices of mass destruction. They too are willing to make any sacrifice or rather they are willing to sacrifice the people in the name, of security. Thousands of nuclear weapons, submarines, a vast military infrastructure did not secure Soviet Union. It will not secure India. Security comes from the well being of all the people.

Decline does not always teach wisdom. It certainly hasn't to the Russian leadership. Their solution to the difficult situation facing them is to pollute even larger areas of the country. They want to make Russia the nuclear dustbin of the world. Earn money doing this and build even more nuclear power plants so that the present energy wasteful lifestyle can continue. A Kursk or a Chernobyl once in a while can be shrugged off as an aberration caused by the inevitable human error. The pity is that the elite in India without the vast land resources is also engaged in the same suicidal course importing the very same technology in Koodankulam. Koodankursk is waiting in the wings.

Surendra Gadekar



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